Acquisition Directorate

Research & Development Center

RDC FY13 Project Portfolio

Table of Contents – FY13 RDT&E Funded

(Note: Highlighted projects indicate new starts.)

Table of Contents – FY13 RDT&E Funded
(continued)

(Note: Highlighted projects indicate new starts.)

Table of Contents – FY13 Externally Funded

(Note: Highlighted projects indicate new starts.)

Table of Contents – FY13 Externally Funded

(Note: Highlighted projects indicate new starts.)

Table of Contents – FY13 Additional R&D Opportunities

(Note: Highlighted projects indicate new starts.)

Acquisition Directorate

Research & Development Center

RDC FY13 Project Portfolio

RDT&E Funded Projects

Evaluate Risk Associated with Port/Waterway Closures

Mission Need: A methodology to evaluate the risk of port/waterway closures and the economic impacts they may cause based on their duration.

Project Objectives:

- Develop a defensible and repeatable methodology to evaluate the risk of port/waterway closures that can be applied to any port in the U.S., whether inland or coastal.
- Assess the local, regional and national economic impacts of port/waterway closures based on the duration of the shutdown.
- Recommend marine safety safeguards that can mitigate the consequences of port/waterway closures.

Sponsor: CG-5PW
Stakeholder(s): LANT 09, LANT 54, DHS S&T (OUP)

Key Milestone / Deliverable Schedule:

Project Start	Oct 12
Award Technical Support Contract	Dec 12
Develop Study/Analysis Plan	Apr 13
Develop Preliminary Risk Model/Methodology	Mar 14
Validate Initial Product	Jun 14
★ **Port/Waterway Closure Economic Risk Assessment Methodology**	**Aug 14**
Present Findings to Sponsors & Stakeholders	Sep 14
Project End	Oct 14

★ Indicates RDC product.

Project #:	Tier:	RDC POC:	CG-926 Domain Lead:
2013.008	3	Mr. Warren Heerlein 860-271-2625	LT Derek Storolis 202-475-3492

Expected Benefit:

Improve operational performance/efficiency/mission execution/resiliency

Notes:

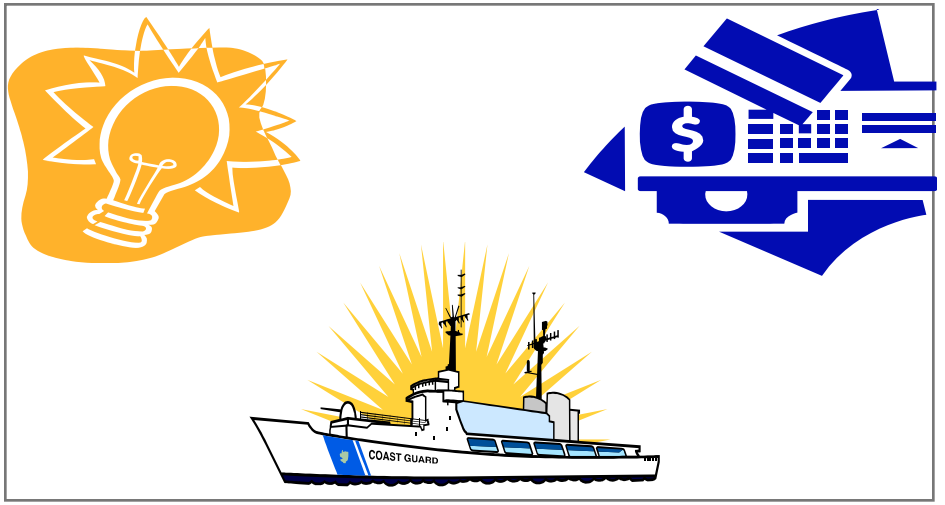
Analysis in Support of Transition

Mission Need: A process to transfer a good idea or COTS tool to CG-wide use.

Project Objectives:

- Develop a user-friendly, repeatable checklist on how to transition good ideas to the CG.
- Develop a process to identify a "Champion" for projects to support funding and transition of those projects to CG-wide implementation.

Sponsor: CG-926
Stakeholder(s): CG-6, CG-7, CG-9



Key Milestone / Deliverable Schedule:

	Project Start …..……	Oct 12
★	**Transition Support Checklist Tool……..…….**	**Aug 13**
	Project End ……..……..	Sep 13

Project #:	Tier:	RDC POC:	CG-926 Domain Lead:
2013.011	3	Ms. Kathleen Shea Kettel 860-271-2770	LT Derek Storolis 202-475-3492

Expected Benefit:

Inform follow-on acquisition/enterprise deployment

Notes:

★ Indicates RDC product.

Ergonomics Analysis of Communications Centers (COMMCENs)

Mission Need: Improve Command Center performance through ergonomic design.

Project Objectives:

- Conduct ergonomics analysis of Command Centers (CCs) to identify issues.
- Identify constraints on solution set.
- Develop recommendations to provide improved ergonomics and CC performance.
- Test and evaluate selected recommendations.

Sponsor: CG-7412

Stakeholder(s): CG-761/-933, Sector Mobile, DOT (VOLPE)

Key Milestone / Deliverable Schedule:

	Project Start	Nov 12
	Initial Site Visits: Overview of Ergonomics Issues	Feb 13
★	**Briefing on Cursory Ergonomics Issues**	**Jun 13**
	Prioritize Issues for Closer Study	Oct 13
	FY14 Study, Recommendations, and Testing	Jul 14
★	**Briefing on FY14 Results**	**Sep 14**
	FY15 Study, Recommendations, and Testing	Jul 15
★	**Briefing on FY15 Results**	**Sep 15**
	Project End	Sep 15

★ Indicates RDC product.

Project #:	Tier:	RDC POC:	CG-926 Domain Lead:
2013.033	3	Dr. Anita Rothblum 860-271-2847	Mr. Jaurin Joseph 202- 475-3493

Expected Benefit:

Improve operational performance/efficiency/mission execution/resiliency

Notes:

PROTECT and Other Deterrence Models

Mission Need: Operational risk-based resource allocation decision models with attributes that incorporate the value of direct contact and virtual means to deterrence and prevention.

Project Objectives:

- Develop a tool based on game theory that will randomize patrol schedules weighted towards high-valued targets that maximizes deterrence.
- Develop a tool that will measure the deterrence impact value of CG mission operations.
- Leverage the previously completed security analytic research of DHS Centers of Excellence such as USC/CREATE.

Sponsor: DCO-81

Stakeholder(s): LANT-73, DHS S&T (OUP), CG-MSR

Key Milestone / Deliverable Schedule:

Project Start …….…..... 23 Jun 10 ✓

★ **Proof of Concept PWCS Patrol Randomization Model……..……..…….. 8 Sep 11** ✓

★ **Exploration of Visualization Methods for PWCS Deterrence Operations..……5 Oct 11** ✓

★ **Deterrence and the USCG: Enhancing Current Practice with Performance Measures…...……22 Mar 12** ✓

Technology Transition Agreement Signed…….. Dec 12

★ **LA/LB PROTECT Implementation Analysis Rpt..Mar 13**

★ **PROTECT Prototype Analytic Vis. Dev. Rpt…….. Jun 13**

★ **PROTECT Prototype Optimized Random Scheduler Model Development Report…… Jun 13**

★ **DIME Pilot Test, Evaluations and Findings Report …… Dec 13**

Project End ……... Jul 14

Project #:	Tier:	RDC POC:	CG-926 Domain Lead:
7512	3	Mr. Craig Baldwin 860-271-2652	LT Derek Storolis 202-475-3492

Expected Benefit:

Improved Doctrine/CONOPs/TTPs

Notes:

★ Indicates RDC product.

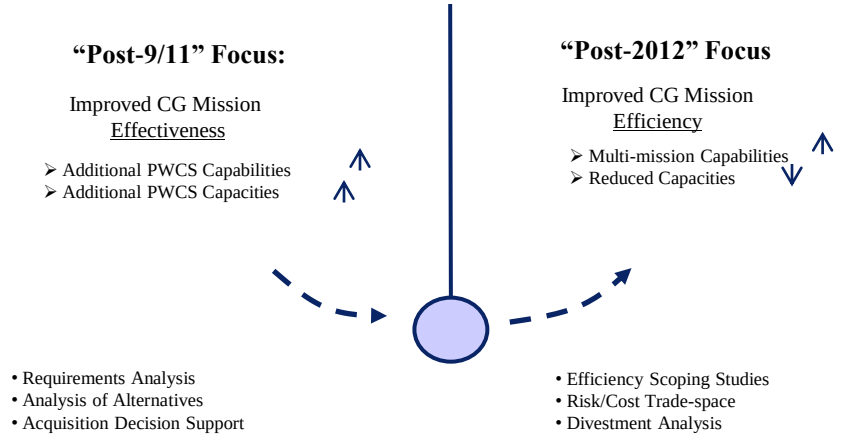
Acquisition Support & Analysis (ASA) Branch

Mission Need: Maintain RDC Branch competency and knowledge; provide rapid response; and provide external liaison.

Project Objectives:

- Maintain and enhance Branch competencies (HIS, Acquisition Analysis, Cost Modeling, and Risk Analysis).
- Provide CG-9 a core competency for analysis approaches that provide more efficacy and efficiency for acquisition decision-making.
- Provide CG-095 a core competency to supplement their options for conducting strategic analysis.

Sponsor: CG-926
Stakeholder(s): CG-095



Key Milestone / Deliverable Schedule:

	Project Start ……	12 Dec 07 ✓
	Sponsor Performance Gap Meetings……	As Required
★	**Developing a Mission Analysis Report……**	**15 Feb 12 ✓**
★	**Developing a Life Cycle Cost Estimate……**	**28 Apr 12 ✓**
	New Project PEPs/Proposals……....	As Required
	Technology Conferences……	As Required
	Project End ……..	TBD

Project #:	Tier:	RDC POC:	CG-926 Domain Lead:
9995	3	Mr. Tim Hughes 860-271-2726	LT Derek Storolis 202-475-3492

Expected Benefit:

Add to general R&D knowledge base

Notes:

★ Indicates RDC product.

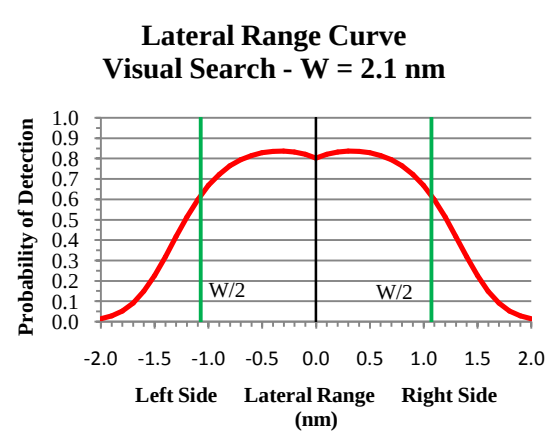
Develop Search Sweep Width Data For Search Objects On Ice

Mission Need: Search planning data for search objects on ice.

Project Objectives:

- Develop lateral range curves and sweep widths for visual search via MH-65C helicopters and SPC-22 airboats against SAR search objects on ice.
- Use lessons learned during testing to develop recommendations for search employment techniques using current D-9 winter SAR assets.

Sponsor: CG-5RI
Stakeholder(s): LANT-7, D9



Key Milestone / Deliverable Schedule:

Project Start ..... 7 Nov 11 ✓
Phase 1 Go/No-Go..... 29 Dec 11 ✓
Phase 1 Testing..... 1 Mar 12 ✓
★ **Interim Brief: Lessons Learned and Preliminary Test Planning Guidance for Searches on Ice 31 May 12** ✓
Decision Point for Phase 2 Testing ..... 29 Jun 12 ✓
Phase 2 Testing.....Feb 13
★ **Final Report: Preliminary Search Planning Guide for Search Objects on Ice..... Sep 13**
Project End ..... Sep 13

★ Indicates RDC product.

Project #:	Tier:	RDC POC:	CG-926 Domain Lead:
1005	3	Mr. Don Decker 860- 271-2701	CDR Albert Antaran 202- 475-3049

Expected Benefit:

Improved Doctrine/CONOPs/TTPs

Notes:

SAR Distress Signaling Methods and Alternatives

Mission Need: Improved distress signal device.

Project Objectives:

- Determine suitability of potential alternatives to pyrotechnic visual distress signals.
- Document and validate key distress signal characteristics.
- Update carriage requirements to eliminate ineffective devices.

Sponsor: CG-5RI
Stakeholder(s): CG-BSX, CG-ENG

Key Milestone / Deliverable Schedule:

Project Start	1 Nov 10	✓
Functional Requirements Workshop	30 Feb 11	✓
Visual Comparisons and Use Testing	9 Nov 11	✓
★ **Suitability of Potential Alternatives to Pyrotechnic Distress Signals**	**31 Jan 12**	✓
Laboratory Testing	Nov 13	
Field Testing	May 14	
★ **Review of Distress Signal Characteristics, and Potential Modifications to Carriage Requirements**	**Jun 14**	
Project End	Sep 14	

★ Indicates RDC product.

Project #:	Tier:	RDC POC:	CG-926 Domain Lead:
1101	3	Mr. Vinnie Reubelt 860-271-2661	LCDR Anthony Erickson 202-475-3748

Expected Benefit:

Influence international standards

Notes:

Automated Target Detection for CG FMV Sensors

Mission Need: Automatic target detection aids to support mission execution and EO/IR sensor capabilities.

Project Objectives:

- Baseline any current CG full motion video (FMV) automatic target detection capabilities.
- Conduct market research on available technologies and software algorithms to exploit automatic target detection from FMV.
- Evaluate potential costs and benefits of automated detection systems.
- Recommend automated FMV target detection technologies for CG demonstration and evaluation.

Sponsor: CG-761
Stakeholder(s): CG-926, CG-711

Key Milestone / Deliverable Schedule:

	Project Start ……	19 Apr 12 ✓
	CG Baseline Automated Target Detection…….....	Sep 12
	Release and Analyze Request For Information……..	Jan 13
★	**Automated Target Detection for Full Motion Video Interim Report..... May 13**	
	Apply Auto-Detect Technology to FMV Data……..	Sep 13
★	**Computer-based Evaluation of FMV Auto-Detect……..... Jan 14**	
	Project End ……	Feb 14

Project #:	Tier:	RDC POC:	CG-926 Domain Lead:
7607	3	Dr. Andrew Niccolai 860- 271-2670	CDR Albert Antaran 202- 475-3049

Expected Benefit:

Improve operational performance/efficiency/mission execution/resiliency

Notes:

★ Indicates RDC product.

Vertical Take-Off and Landing (VTOL) Unmanned Aerial System (VUAS) Flight Demonstration Off the National Security Cutter (NSC)

Mission Need: Expand CG research and operational experience w/ UAS capabilities in a maritime environment.

Project Objectives:

- Procure all major Fire Scout system subcomponents except air vehicle.
- Execute flight deck certification, engineering and airspace processes involved in order to operate Vertical Unmanned Aerial System (VUAS) off the National Security Cutter (NSC). Install and test Fire Scout system from an NSC.
- Conduct analysis and report on effectiveness of VUAS to contribute to NSC mission performance.

Sponsor: CG-931

Stakeholder(s): CG-926, CG-711, CG-751, CG-932, RNWC

Key Milestone / Deliverable Schedule:

Project Start	1 Oct 09	✓
Reinitiate Project	8 Feb 12	✓
Select Candidate NSC for Test	Nov 12	
GCS System Acceptance Test	Jan 14	
NSC Installation and Test	May 14	
★ **Final Rpt "Evaluation of Fire Scout for Use on NSC"**	**Aug 14**	
Project End	Sep 14	

Project #:	Tier:	RDC POC:	CG-926 Domain Lead:
7802	1	Mr. Tim Ledbetter 860- 271-2609	CDR Albert Antaran 202- 475-3049

Expected Benefit:

Inform follow-on acquisition/enterprise deployment

Notes:

Includes funding from FY10 UAS Earmark.
Includes funding from FY12 UAS Earmark.

★ Indicates RDC product.

Shipboard Small UAS Capability Demonstration

Mission Need: Identify the risks, benefits, and limitations of operating small UAS off the National Security Cutter (NSC).

Project Objectives:

- Prepare for a sUAS installation on and NSC to include ECP, Interim Flight Clearance, Topside Analysis and other prerequisites.
- Execute two-phased Small Unmanned Aircraft System (sUAS) demonstrations from National Security Cutter (NSC).
- Analyze and report on potential sUAS contributions to NSC mission capabilities and impact on ship and crew operations.

Sponsor: CG-711
Stakeholder(s): CG-926, CG-931, CG-751, CG-932, RNWC

Key Milestone / Deliverable Schedule:

Project Start ……...	27 Sep 11	✓
Configuration Control Board Approval……	14 Apr 12	✓
Shore Side Test……	6 May 12	✓
Phase I Demonstration off USCGC Stratton……	18 Aug 12	✓
★ **sUAS Interim Report and Recommendations…... Nov 12**		
Phase II Demonstration off USCGC Stratton……..	Apr 13	
★ **sUAS Final Report and Recommendations…… Aug 13**		
Project End …….....	Sep 13	

Project #:	Tier:	RDC POC:	CG-926 Domain Lead:
7804	1	Dr. Andrew Niccolai 860- 271-2670	CDR Albert Antaran 202- 475-3049

Expected Benefit:

Inform follow-on acquisition/enterprise deployment

Notes:

Includes funding from FY10 UAS Earmark.

★ Indicates RDC product.

Aviation Branch Support

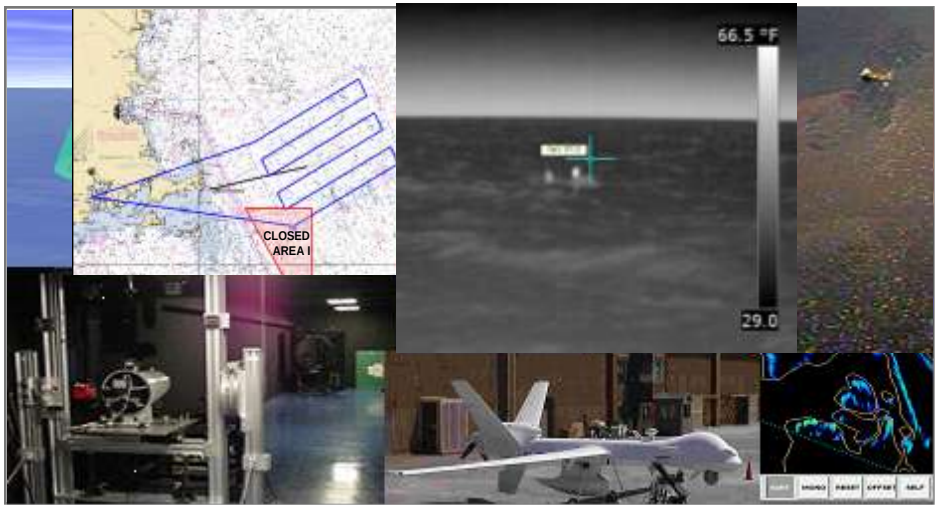
Mission Need: Maintain RDC Branch competency and knowledge; provide rapid response; and provide external liaison.

Project Objectives:

- Maintain/develop Branch technical competencies and infrastructure in CG-relevant aviation/T&E technology.
- Support Aviation SIT.
- Report on development & test of Thermal Oscar target.
- Report on analysis of USCG airborne spill surveillance.
- Seek opportunities to support CG/DHS aviation programs that close capability gaps and improve mission performance.

Sponsor: CG-926

Stakeholder(s):



Key Milestone / Deliverable Schedule:

Project Start ……..…. 3 Dec 07 ✓

★ **RDC Product ……..…… TBD**

Potential Project Field Visits…….. As Required

New Project PEPs & Proposals…… As Required

Technology Demos……...…….. As Required

Technology Conferences..……..…..……. As Required

Project End ……TBD

Project #:	Tier:	RDC POC:	CG-926 Domain Lead:
9992	3	Mr. William Posage 860- 271-2688	CDR Albert Antaran 202- 475-3049

Expected Benefit:

Add to general R&D knowledge base

Notes:

★ Indicates RDC product.

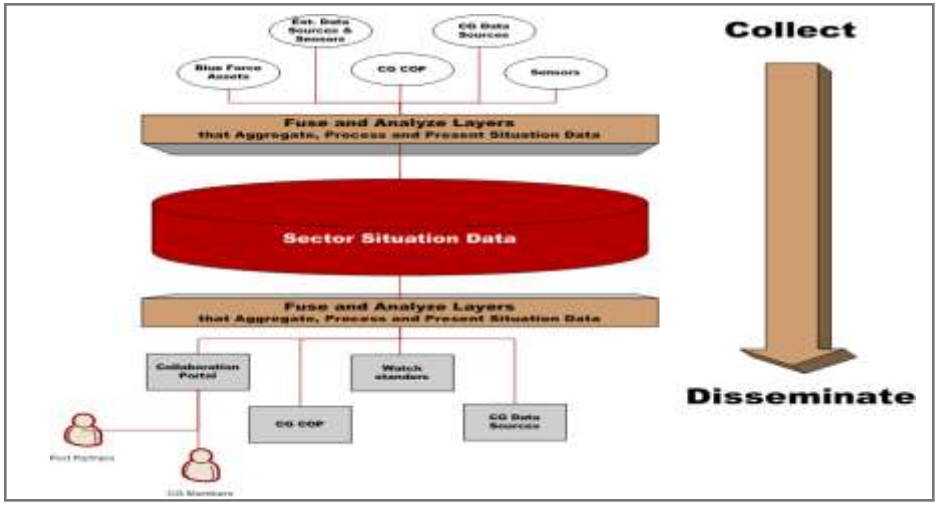
Coastal Surveillance System (CSS)

Mission Need: IOC Segment I (WATCHKEEPER) integration of sensor information.

Project Objectives:

- Integrate the SIMON/OMS Sensor Management System (SMS) at selected USCG, IOC Sectors (LA/LB, ST PETE, SD….).
- Integrate sensor into SIMON/OMS and test continuity of data collection into WATCHKEEPER from air & surface assets.
- Conduct data flow assessments at test sites to ensure CG & DHS spectrum of contacts/targets meet IOC – ORD req.

Sponsor: CG-9333
Stakeholder(s): CG-741, CG-761, DHS S&T (BMD)



Key Milestone / Deliverable Schedule:

Project Start ……..……Oct 12
Stand-up & Participate in IPT…….....Dec 12
Complete Demo of SIMON/OMS at Test Bed……. Mar 13
★ **Interim Report on SIMON/OMS Testing…….May 13**
Complete SIMON/OMS Integration to WATCHKEEPER (test bed only)……Sep 13
Complete Data Assessments on Sensor-SMS WATCHKEEPER…. …… Mar 14
★ **Final Report on Segment II Efforts of CSS…….. Oct 14**
★ **Develop & Deliver ROADMAP for Transition…… Apr 15**
Project End ……..……... May 15

★ Indicates RDC product.

Project #:	Tier:	RDC POC:	CG-926 Domain Lead:
2013.036	1	LTJG Kevin Sorrell 860-271-2727	CDR Tung Ly 202-475-3011

Expected Benefit:

Inform follow-on acquisition/enterprise deployment

Notes:

Boat Crew Communication Capabilities Study

Mission Need: An effective and reliable internal-external communications capability for Small Boat crews.

Project Objectives:

- Determine performance needs and gaps in CG internal-external Integrated Communications Systems (ICS) across boat classes.
- Resolve BCCS Problems Documented in DHS IG Report
- Optional: Conduct field test and assessment of representative standardized ICS.

Sponsor: CG-7311
Stakeholder(s): DOG, CAIT-SC

Key Milestone / Deliverable Schedule:

Project Start ..... 27 May 10 ✓

★ **BCCS Capability Gaps and System Test Recommendations Briefing.....16 Jun 11** ✓

IG Resolution Testing Expanded from Sta NLON to MSST Kings Bay ..... 30 Apr 12 ✓

★ **BCCS Briefing on IG Resolution..... Nov 12**

Project End ..... Jan 13

Completed

Project #:	Tier:	RDC POC:	CG-926 Domain Lead:
5203	3	Ms. Judi Connelly 860-271-2643	CDR Tung Ly 202-475-3011

Expected Benefit:

Direct Product Line/Core Technology Support (Tech refresh, DMS, etc

Notes:

★ Indicates RDC product.

Non-Compliant Vessel (NCV) Video Recorder

Mission Need: CG OTH platforms ability to capture video imagery of operations or surroundings.

Project Objectives:

- Evaluate a range of technical capabilities a video system can provide in support of OTH operations and missions.
- Support and validate operational requirements and Key Performance Parameters (KPPs).
- Collect quantitative data points that can be used to determine the range of technical performance for various systems.

Sponsor: CG-7311
Stakeholder(s): DOG



Key Milestone / Deliverable Schedule:

	Project Start ……	20 Oct 11 ✓
★	**Non-Compliant Vessel Video Recorder: Technology Options Brief……..**	**20 Jun 12 ✓**
	Initial Evaluation……..	Dec 12
	Technology Transition Agreement (TTA) Approval…	Jan 13
	Extended Evaluation..……	Apr 13
★	**Non-Compliant Vessel Video Recorder: Final Report……**	**Jul 13**
	Project End ……..	Aug 13

Project #:	Tier:	RDC POC:	CG-926 Domain Lead:
5704	3	LTJG Kevin Sorrell 860-271-2727	CDR Tung Ly 202-475-3011

Expected Benefit:

Improve operational performance/efficiency/mission execution/resiliency

Notes:

★ Indicates RDC product.

Non-Compliant Vessel (NCV) Contraband Marker

Mission Need: A method to effectively tag and track jettisoned contraband for later recovery.

Project Objectives:

- Evaluate a range contraband marker systems to support OTH LE activities.
- Collect quantitative data points that can be used to determine the range of technical performance for various systems.
- Generate, support, and validate operational requirements and Key Performance Parameters (KPPs) for a potential future acquisition.

Sponsor: CG-731
Stakeholder(s): LANT-7, CG-761

Key Milestone / Deliverable Schedule:

	Project Start ……	20 Oct 11 ✓
★	**Non-Compliant Vessel Contraband Marker: Technology Selection Briefing ……**	**Mar 13**
	Initial Evaluation……	Jun 13
	Extended Evaluation..……	Nov 13
	Technology Transition Agreement (TTA) Approval……	Dec 13
★	**Non-Compliant Vessel Contraband Marker: Final Report …… ……..**	**Feb 14**
	Project End ……..	Apr 14

Project #:	Tier:	RDC POC:	CG-926 Domain Lead:
5707	3	LTJG Kevin Sorrell 860-271-2727	CDR Tung Ly 202-475-3011

Expected Benefit:

Improve operational performance/efficiency/mission execution/resiliency

Notes:

★ Indicates RDC product.

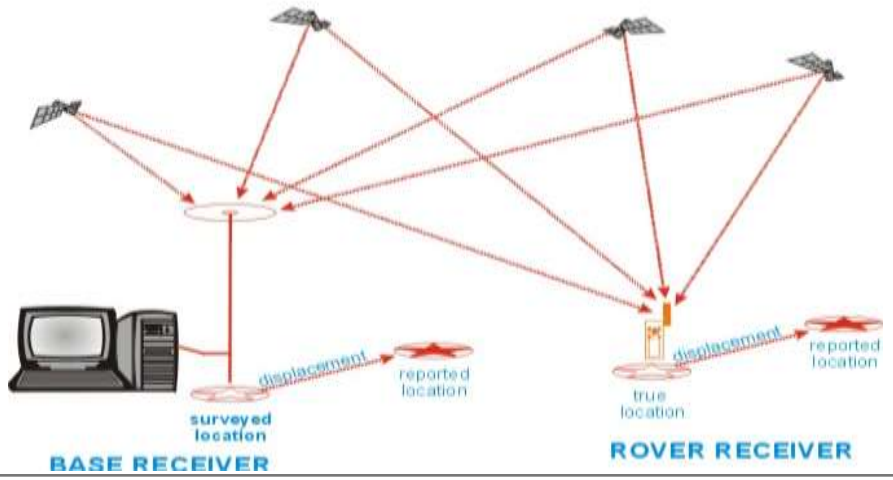
Alternative Precise Network Timing

Mission Need: A precise timing alternative in the event GPS becomes unavailable.

Project Objectives:

- Research, evaluate, and document at least one promising wireless technical approach for passing precise time using LORAN and dGPS frequencies.

Sponsor: CG-5PW
Stakeholder(s): CG-6



Key Milestone / Deliverable Schedule:

Project Start	5 Dec 11	✓
Statement of Obligation for CRADA	23 Dec 11	✓
CRADA Signed by Both RDC and UrsaNav	11 Jan 12	✓
Testing at LORAN Station Wildwood, NJ	Apr 13	
Testing at LORAN Station Las Cruces, NM	Jul 13	
★ **Results of Alternative to GPS Timing Tech**	**Sep 13**	
Briefing of Alternative to GPS Timing Tech to HQ	Sep 13	
Project End	Sep 13	

Project #:	Tier:	RDC POC:	CG-926 Domain Lead:
6206	3	LT Helen Millward 860-271-2815	CDR Tung Ly 202-475-3011

Expected Benefit:

Add to general R&D knowledge base

Notes:

Project includes use of a CRADA.

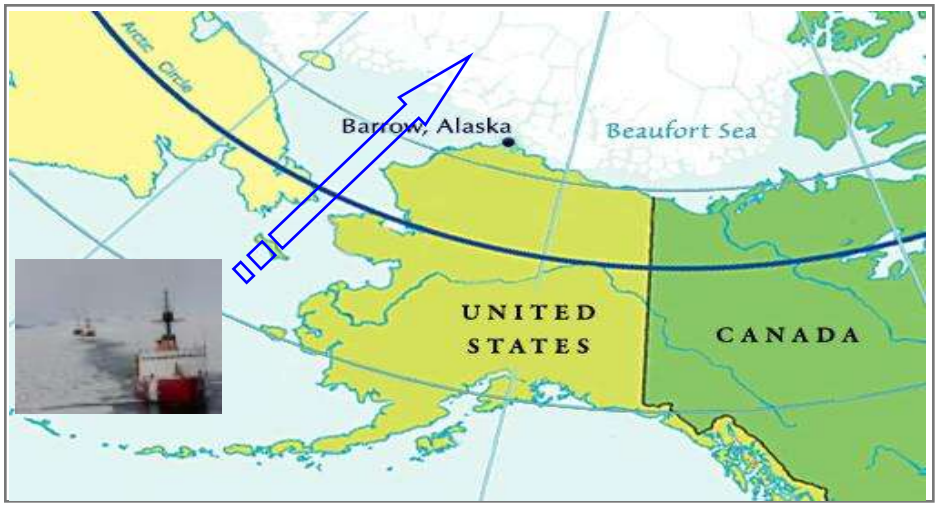
★ Indicates RDC product.

Arctic HF Communications Technology Assessments

Mission Need: Increased communications capability in the Arctic to improve performance.

Project Objectives:

- Survey abilities of existing USCG and non-USCG maritime Arctic communications technologies.
- Simulate the communications, identify gaps and provide guidance to Sponsor on potential future HF systems , locations sites and associated cost for each recommended component.



Sponsor: CG-761
Stakeholder(s): DHS S&T (BMD)

Key Milestone / Deliverable Schedule:

Project Start ……..…. Oct 12

★ **ARCTIC Coverage and Average Expected Coverage…….. Apr 13**

★ **As-Is vs. Alternative System Performance…… Sep 13**

★ **Arctic Communications Technology Recommendations and Path Forward…… Nov 13**

Project End …… Dec 13

Project #:	Tier:	RDC POC:	CG-926 Domain Lead:
6208	3	Ms. Elizabeth Weaver 860-271-2732	CDR Tung Ly 202-475-3011

Expected Benefit:

Add to general R&D knowledge base

Notes:

★ Indicates RDC product.

Mobile Asset Tracking and Reporting Device

Mission Need: A flexible ad hoc interoperable communication/information system to enhance the Coast Guard's ability to respond to Incidents of National Significance.

Project Objectives:

- Prototype a flexible interoperable communication/ information system, processes, and procedures to enhances the USCG's ability to transfer information that will assist personnel responding to an IONS (e.g., oil spill).
- The system, processes, and procedures should make use of the equipment the responders are expected to bring to the incident such as smartphones, tablet computers, and laptops.
- Utilize CRADA where applicable and IAA for Lincoln Labs.

Sponsor: CG-761

Stakeholder(s): CG-6, DHS S&T (OIC)

Key Milestone / Deliverable Schedule:

Project Start …… 19 Aug 11 ✓
CRADA Signed by both RDC and GD…….. 26 Apr 12 ✓
Technology Assessment …… Mar 13
★ **Technical Assessment Brief for Mobile Asset Tracking and Reporting Device……..…..... Mar 13**
Key Decision Point for Prototype Completion…..… Mar 13
Technology Demonstrations ……..... Jul 14
(Lincoln Labs, General Dynamics, Army, Trident, Other)
-Build Prototypes
-Conduct Technical Demonstrations
★ **Mobile Asset Tracking and Reporting Device: IONS System Test Results and Recommendations..... Oct 14**
Project End …… Nov 14

★ Indicates RDC product.

Project #:	Tier:	RDC POC:	CG-926 Domain Lead:
8105	1	Mr. Jon Turban, P.E. 860-271-2834	CDR Tung Ly 202-475-3011

Expected Benefit:

Improve operational performance/efficiency/mission execution/resiliency

Notes:

Includes funding from FY11 Oil Spill Research Earmark.
Project includes use of a CRADA.

Analysis of Solid State Marine RADAR

Mission Need: Assess the characteristics of newer solid state marine RADAR.

Project Objectives:

- Investigate new advances in marine RADAR, including solid state developments.
- Investigate problems associated with low-power RADARs.

Sponsor: CG-257
Stakeholder(s): CG-64, CAIT-SC

Key Milestone / Deliverable Schedule:

Project Start ……	2 Nov 11	✓
Define and Scope of Solid State RADARs for CG..	25 Apr 12	✓
RFI to Industry…….....	15 Jun 12	✓
Market Research Complete……	27 Jul 12	✓
Compare Solid State Radar to CG Systems…….	31 Aug 12	✓
★ **(U) Comparative Analysis on CG Capability against Solid State Marine RADAR……..	Nov 12**	
Project End …….	Dec 12	

Project #:	Tier:	RDC POC:	CG-926 Domain Lead:
8106	3	LT Jeff Young 860-271-2679	CDR Tung Ly 202-475-3011

Expected Benefit:

Direct Product Line/Core Technology Support (Tech refresh, DMS, etc

Notes:

★ Indicates RDC product.

Assessment of Migrating CG C2 Infrastructure to the Common User Interface (CUI) and the Ozone Widget Framework

Mission Need: Analyze the constraints and impacts associated with completing an IT enterprise migration to DoD and other government agency's evolving data exchange services.

Project Objectives:

- Perform a consolidated review of the multiple C2 applications, both HIGH and LOW sides used across the CG (shore, air, sea).
- Develop a ROADMAP to support HIGH & LOW side C2 applications.
- Conduct a Ltd Obj Exp. on OWF and secure IT dependencies for HIGH and LOW sides C2 applications.

Sponsor: CG-761

Stakeholder(s): CG-257, CAIT-SC

Key Milestone / Deliverable Schedule:

Project Start ……..…….. Oct 12

★ **CG C2 As-Is Applications vs. GCCS-J/I3 Migration to Desktop Widget……..…. Jan 13**

KDP C2 Applications Demo go/no-go…… Jan 13

★ **CG C2 ROADMAP for OWF Migration …… Jul 13**

★ **CG Cross-Decking DoDAF and IT Security Interoperability ……..…….. May 14**

Project End ……..…… May 14

Project #:	Tier:	RDC POC:	CG-926 Domain Lead:
8108	3	Ms. Val Arris 860-271-2849	CDR Tung Ly 202-475-3011

Expected Benefit:

Direct Product Line/Core Technology Support (Tech refresh, DMS, etc

Notes:

★ Indicates RDC product.

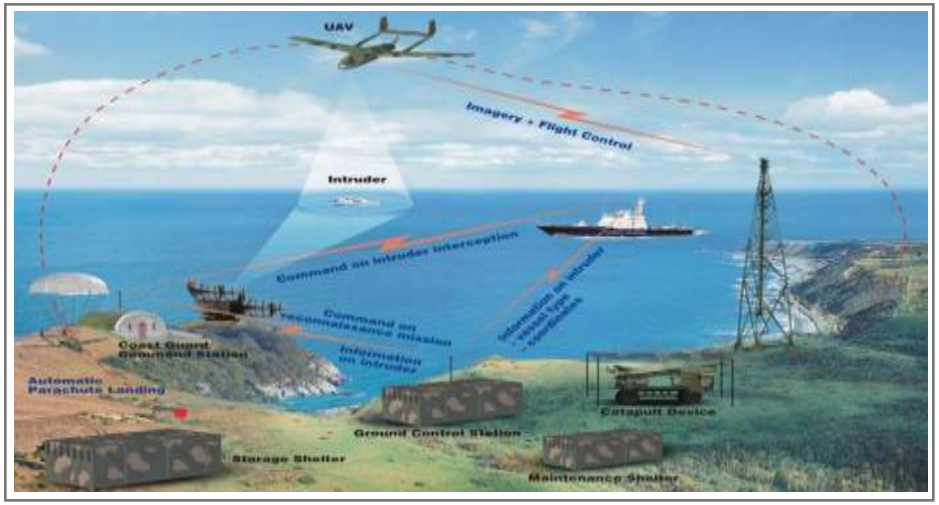
Advanced Communications Intelligence (COMINT) Technology

Mission Need: Process, exploit, and disseminate (PED) signals of interest as part of shipboard collections platforms to support advanced surveillance, identification, classification, and interception.

Project Objectives:

- Evaluate COMINT capabilities on CG vessels and compare performance against mission needs and requirements.
- Identify candidate systems that have the potential to meet requirements.
- Conduct demonstrations to validate candidate technical solutions for CG requirements.

Sponsor: CG-257
Stakeholder(s): CGCG, CG-761, CAIT-SC



Key Milestone / Deliverable Schedule:

Project Start	8 Nov 11 ✓
Technology Research	Sep 12
Tech Review & Gap Analysis	Dec 12
Identify Solutions	Apr 13
Conduct Demonstrations	Jun 13
★ **Advanced CG COMINT Capabilities: Next Step Shipboard Capabilities**	**Oct 13**
Project End	Dec 13

Project #:	Tier:	RDC POC:	CG-926 Domain Lead:
8305	3	Mr. Jay Spalding 860-271-2687	CDR Tung Ly 202-475-3011

Expected Benefit:

Direct Product Line/Core Technology Support (Tech refresh, DMS, etc

Notes:

★ Indicates RDC product.

C4ISR Branch Support

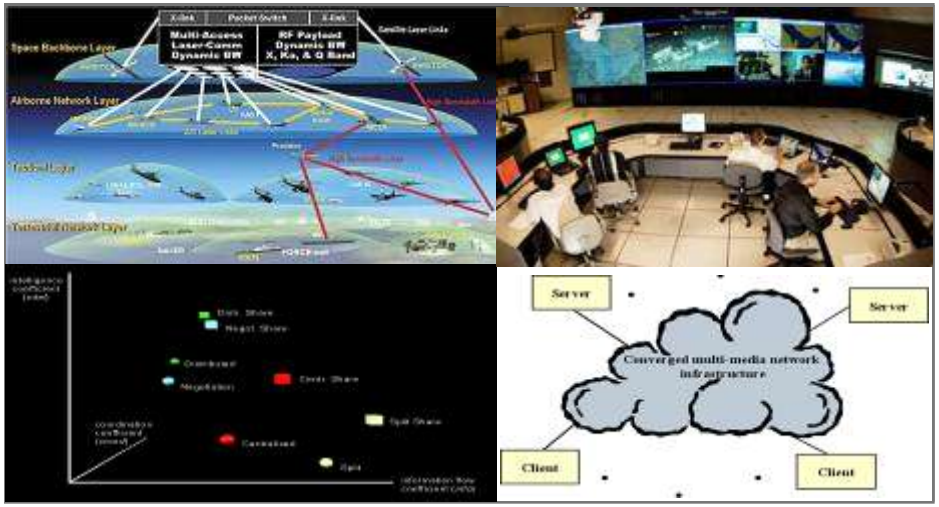
Mission Need: Maintenance of RDC Branch competency and knowledge; provide rapid response; and provide external liaison.

Project Objectives:

- Maintain RDC competency in understanding present and future CG Mission Performance Gaps relating to Command, Control, Computers, Communications, Intelligence, Surveillance and Reconnaissance.
- Maintain RDC competency in technologies that currently or potentially could be used to eliminate or reduce Mission Performance Gaps across multiple CG Offices/Missions.
- Support the development of proposals for the TST & TENCAP Programs.

Sponsor: CG-926

Stakeholder(s):



Key Milestone / Deliverable Schedule:

	Project Start……	3 Dec 07 ✓
	Sponsor Performance Gap Meetings……	As Required
	Potential Project Field Visits……	As Required
	New Project Execution Plans (PEP's)……	As Required
	New Project Proposals……	As Required
★	**Technology Demos – Mobile Apps……**	**May 13**
	Technology Conferences……	As Required
	Project End……	TBD

Project #:	Tier:	RDC POC:	CG-926 Domain Lead:
9991	3	Dr. Jack McCready 860-271-2738	CDR Tung Ly 202-475-3011

Expected Benefit:

Add to general R&D knowledge base

Notes:

★ Indicates RDC product.

Risk Assessment Methodology to aid USATON Design Changes

Mission Need: Updates to the design standards of the U.S. Maritime Aids to Navigation System (USATONS) based on emergent and current e-Navigation technology.

Project Objectives:

- Determine current and proposed carriage requirements for e-Navigation components.
- Determine to what degree mariners rely on visual ATON.
- Develop comparative risk model to support changes to USATONS design standards which incorporate e-Navigation components.
- Determine impacts to user groups affected by USATONS design standard changes.

Sponsor: CG-5PW
Stakeholder(s): CG-095

Key Milestone / Deliverable Schedule:

Project Start…… 2 May 11 ✓

Selection of Port Scenarios Interim Report…… 25 Nov 11 ✓

Existing ATON Performance Interim Report…. 3 Feb 12 ✓

Modeling/Risk Interim Report…….. 8 Jun 12 ✓

★ **Final Report of Comparative Risk Model to Support Changes to Design Standards of USATONS……..Oct 12**

Project End…… Nov 12

Project #:	Tier:	RDC POC:	CG-926 Domain Lead:
2701	3	Mr. Scott Fields 860-271-2805	LCDR Anthony Erickson 202-475-3748

Expected Benefit:

Improve operational performance/efficiency/mission execution/resiliency

Notes:

★ Indicates RDC product.

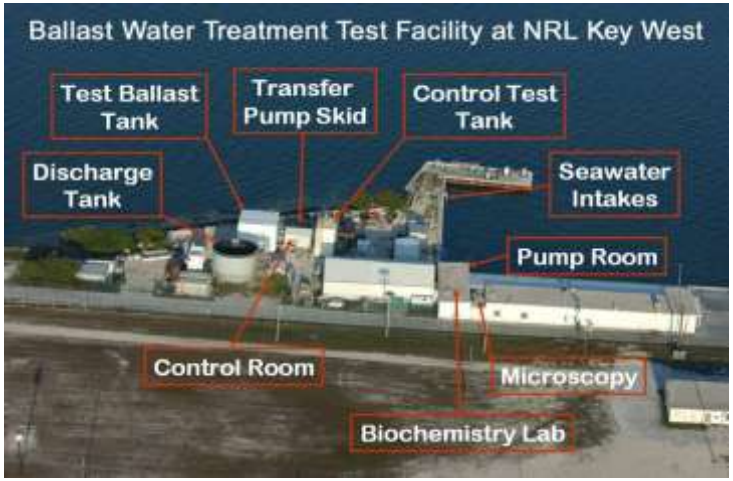
Ballast Water Treatment (BWT)

Mission Need: Verify that ballast water treatment systems meet discharge standards.

Project Objectives:

- Develop a test protocol for shore-based tests of BWT systems.
- Conduct inter-comparison of shore-based test facilities.
- Develop automated methods to standardize analysis of samples with very low concentrations of organisms.

Sponsor: CG-5PS
Stakeholder(s): GLRI, DOT (VOLPE)



Key Milestone / Deliverable Schedule:

	Project Start……..	30 May 08 ✓
	…	
	Begin Test Facility Equipment Testing……....	10 Jan 11 ✓
	Conclude Test Facility Equipment Testing……...	8 Aug 11 ✓
★	**Revised Protocol for Zooplankton Automated Analysis…….. 14 Nov 11**	✓
★	**Protocol for Automated Protist Analysis…….. 8 Dec 11**	✓
★	**Automated Protist Analysis of Complex Samples: Recent Investigations Using Motion and Thresholding…….…….. 13 Jan 12**	✓
★	**Assessment of Intercalibration Tests by Selected Test Facilities - Final Report ……..... Nov 12**	
★	**Indep. Assess. of MERC BW Test Facility…….. Jan 13**	
	Project End ……	Mar 13

★ Indicates RDC product.

Project #:	Tier:	RDC POC:	CG-926 Domain Lead:
4101	2	Ms. Penny Herring 860-271-2868	Mr. Jaurin Joseph 202- 475-3493

Expected Benefit:

Influence international standards

Notes:

Recovery of Heavy Oil

Mission Need: Capability to detect and recover heavy oils, which do not remain on surface of water.

Project Objectives:

- Document the present status of capabilities and techniques for the detection and recovery of heavy oils.
- Develop and evaluate the most promising capabilities and techniques for detecting heavy oil on the bottom.
- Develop and evaluate the most promising capabilities and techniques for recovering heavy oil on the bottom.
- Field demonstrations of two prototypes.

Sponsor: CG-5RI
Stakeholder(s): BSEE, ICCOPR

Key Milestone / Deliverable Schedule:

	Project Start……	5 Feb 07 ✓
	Phase 1: Detection	
★	**Heavy Oil Detection Proofs of Concept Briefing……**	**22 May 08 ✓**
★	**Heavy Oil Detection Prototypes Final Report..**	**11 Jun 09 ✓**
	Phase 2 : Recovery	
★	**Heavy Oil Recovery Design Briefing……..**	**11 Jan 11 ✓**
	Recovery Prototype Tests……	15 Nov 11 ✓
★	**Heavy Oil Recovery Ohmsett Test Report……**	**8 Jun 12 ✓**
	Prototype Field Demonstration……	Oct 12
★	**Development of Bottom Oil Recovery Systems – Final Project Report……..……**	**Aug 13**
	Project End……..	Sep 13

★ Indicates RDC product.

Project #:	Tier:	RDC POC:	CG-926 Domain Lead:
4153	2	Mr. Kurt Hansen 860-271-2865	Mr. Shannon Jenkins 202-475-3490

Expected Benefit:

Improve operational performance/efficiency/mission execution/resiliency

Notes:

Includes funding from FY11 Oil Spill Research Earmark.
Project includes use of a BAA.

Detection and Collection of Oil within the Water Column

Mission Need: Accurately detecting and mitigating subsurface oil within the water column up to 10,000 feet.

Project Objectives:

- To develop new spill response technologies that detect and mitigate oil within the water column down to 10,000 ft.
  - Operate in all environmental conditions.
  - Locate and mark subsurface oil for possible removal.
  - High resolution for detecting small droplets of oil.
- Technology to be capable of operating off vessels of opportunity.
- Addresses near shore and rivers.

Sponsor: CG-5RI
Stakeholder(s): BSEE, ICCOPR

Key Milestone / Deliverable Schedule:

	Project Start ……	4 Aug 11 ✓
	Start Design Phase ……	2 Apr 12 ✓
★	**Detection of Oil in Water Column: Sensor Design…….**	**Jan 13**
★	**Detection of Oil in Water Column, Final Report: Detection Prototype Tests……**	**Apr 14**
★	**Detection of Oil in Water Column, Presentation: Mitigation Design……..……**	**Oct 15**
★	**Detection of Oil in Water Column, Final Report: Prototype Mitigation Tests…….……**	**Nov 16**
	Project End ……	Jan 17

★ Indicates RDC product.

Project #:	Tier:	RDC POC:	CG-926 Domain Lead:
4702	3	Mr. Alexander Balsley 860-271-2854	Mr. Shannon Jenkins 202-475-3490

Expected Benefit:

Improve operational performance/efficiency/mission execution/resiliency

Notes:

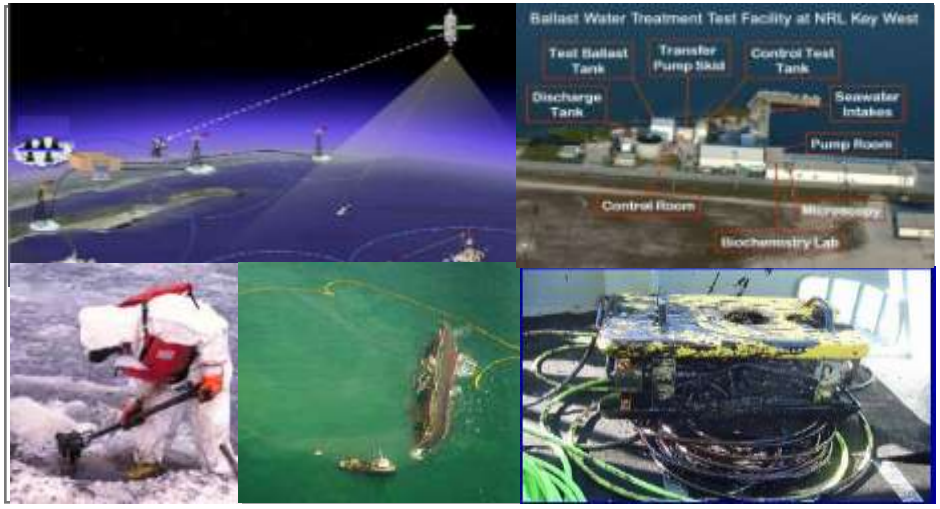
Includes funding from FY11 Oil Spill Research Earmark.
Project includes use of a BAA.

Environmental & Waterways Branch Support

Mission Need: Maintain RDC Branch competency and knowledge; provide rapid response; and provide external liaison.

Project Objectives:

- Maintain RDC competency and technical knowledge in understanding present and future CG Safety and Response Mission Performance Gaps.
- Maintain RDC competency in technologies that currently or potentially could be used to eliminate or reduce CG Safety and Response Mission Performance Gaps.



Sponsor: CG-926
Stakeholder(s):

Key Milestone / Deliverable Schedule:

Project Start	3 Dec 07 ✓
CG Nav 1 Testing	Sep 12
Sponsor Performance Gap Meetings	As Required
Potential Project Field Visits	As Required
New Project Execution Plans (PEPs)	As Required
New Project Proposals	As Required
Technology Demos	As Required
Technology Conferences	As Required
Project End	TBD

Project #:	Tier:	RDC POC:	CG-926 Domain Lead:
9993	3	Mr. James Fletcher 860-271-2659	Mr. Shannon Jenkins 202-475-3490

Expected Benefit:

Add to general R&D knowledge base

Notes:

★ Indicates RDC product.

Panga Search Planning Tools/POS Calculation Analysis

Mission Need: LE search planning tools for finding pangas or other vessels of interest that are trying to avoid detection.

Project Objectives:

- Characterize panga intel & threat vectors, analyze & model mission trade-offs, conceive an LE search planning system.
- Propose preliminary CONOPS & threat reduction estimate.
- Create initial justification for system development.
- Seek program & stakeholder approval to enter Systems Development Life Cycle (SDLC) - Conceptual Planning Phase for formal Business Case Analysis (BCA).

Sponsor: CG-761

Stakeholder(s): Sector San Diego, DHS S&T (BMD)

Key Milestone / Deliverable Schedule:

	Project Start …….….	Oct 12
	Develop Conceptual LE system ……...……May13	
★	**Conceptual LE Search Planning System ……. Jul 13**	
	Present Concept to Programs & Stakeholders …….Aug 13	
	Seek Program Memo for System Justification ……Aug 13	
	Ramp-up Follow-on RDTE FY14 SDLC Project…… Sep 13	
	Project End …….. Sep 13	
	FY14 SDLC Conceptual Planning Project Start ……. Oct 13	

Project #:	Tier:	RDC POC:	CG-926 Domain Lead:
2013.005	3	Mr. Warren Heerlein 860-271-2625	Mr. Shannon Jenkins 202-475-3490

Expected Benefit:

Improve operational performance/efficiency/mission execution/resiliency

Notes:

★ Indicates RDC product.

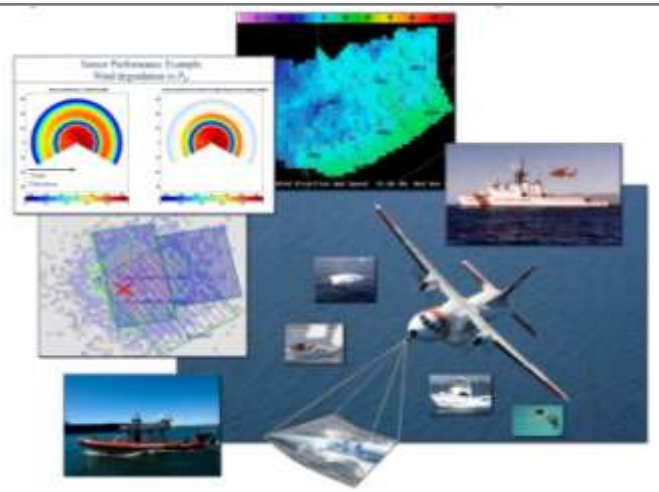
Optimizing RADAR & Electro-Optical Sensors

Mission Need: Provide sensor performance decision support to the operational and acquisition communities from Sensor Performance Modeling.

Project Objectives:

- Assess the design and capabilities of current USCG sensor performance applications and prediction tools in order to enhance existing or develop new digital sensor, target, and environment models.
- Identify a scalable and maintainable path forward that allows for cost effective improvements for future growth.

Sponsor: CG-926
Stakeholder(s): M&S Council, RNWC



Key Milestone / Deliverable Schedule:

Project Start…… 10 Mar 09 ✓

★ **Summary Report: Sensor M&S - Phase I……. 11 May 10** ✓

★ **Briefing – Validation of RADAR/EO/IR testing……23 Mar 12** ✓

NATO Partnered Validation Test…….…… 14 Jun 12 ✓

★ **Sensor Model Accreditation Summary Report..…May 13**

Project End…. …… Jun 13

Project #:	Tier:	RDC POC:	CG-926 Domain Lead:
7507	1	Ms. Judith Connelly 860-271-2643	LT Derek Storolis 202-475-3492

Expected Benefit:

Improved Doctrine/CONOPs/TTPs

Notes:

★ Indicates RDC product.

Support Development of Coastal Operations Analytical Suite of Tools (COAST)

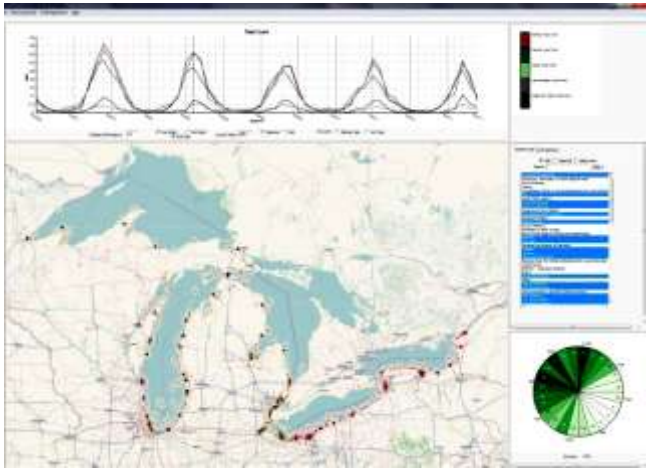
Mission Need: Accredited M&S tools that support operational and programmatic decision making within the Coastal Zone, Great Lakes or Inland Waters.

Project Objectives:

- Complete Search and Rescue Visualization Analytics (SARVA) and Boat Allocation Model (BAM) Verification, Validation, and Accreditation (VV&A).
- Support development of initial prioritized list of needed tools.
- Support development of a Performance Specification Document for each tool module.
- Conduct Verification and Validation for each module.

Sponsor: CG-771

Stakeholder(s): DHS S&T (OUP), M&S Council



Key Milestone / Deliverable Schedule:

	Project Start …..…….	1 Oct 12
★	**SARVA Verification and Validation Report……**	**Feb 13**
★	**BAM Verification and Validation Report……**	**Feb 13**
★	**Module Performance Spec Document(s)……**	**Jul 13**
★	**Module VV&A……**	**Apr 15**
	Project End ……..……..	May 15

Project #:	Tier:	RDC POC:	CG-926 Domain Lead:
7520	2	Mr. Mike Lehocky 860-271-2698	LT Derek Storolis 202-475-3492

Expected Benefit:

Improved Doctrine/CONOPs/TTPs

Notes:

★ Indicates RDC product.

Systems Analysis and Optimization of CGMOES

Mission Need: A modern, stable campaign analysis tool under government control for routine decision support.

Project Objectives:

- The Coast Guard needs to improve its existing campaign modeling capabilities by modernizing its hardware and software suite, obtaining greater government control/oversight, and providing CG decision makers a stable platform for future (routine) decision analysis support.

Sponsor: CG-771
Stakeholder(s): CG-926, M&S Council

Key Milestone / Deliverable Schedule:

Project Start	23 Jul 12	✓
Complete Phase I	15 Aug 12	✓
KDP to Convert Database from Access to SQL	May 13	
★ **Verification, Validation, and Accreditation Rpt...**	**Feb 14**	
Achieve IOC	Feb 14	
Transition to RDC-led Team	Aug 14	
★ **Configuration Management Report**	**Dec 14**	
Achieve FOC	Dec 14	
Project End	Jan 15	

Project #:	Tier:	RDC POC:	CG-926 Domain Lead:
7927	1	Ms. Kathleen Shea Kettel 860-271-2770	LT Derek Storolis 202-475-3492

Expected Benefit:

Influence Mission Support efficiencies

Notes:

Project will end at IOC unless CG-7 provides FY14 funding for FOC.

★ Indicates RDC product.

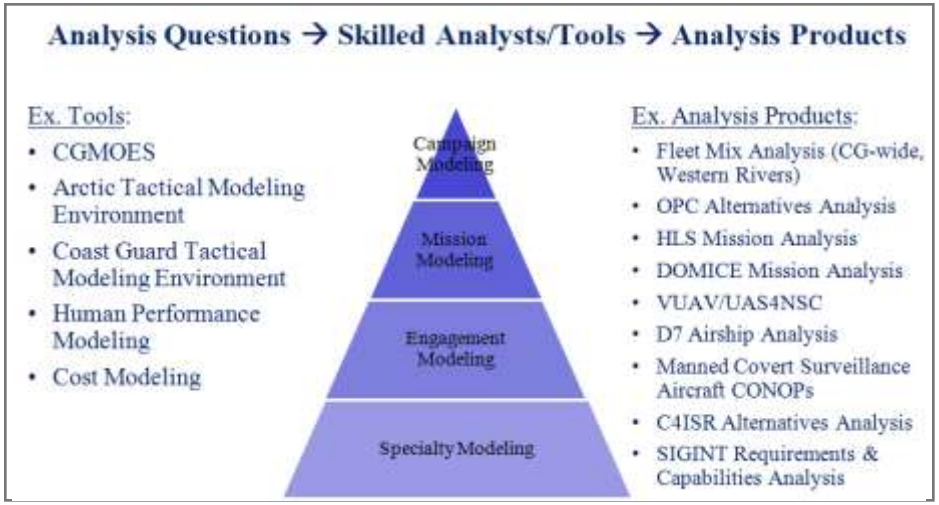
Modeling & Simulation Center of Expertise (COE) Branch

Mission Need: Maintain RDC Branch competency and knowledge; provide rapid response; and provide external liaison.

Project Objectives:

- Maintain and enhance Branch competencies (Fleet Mix Strategic Analysis, Tactical Force Package Analysis, Sensor Performance Analysis, Data Repository, Analysis, and Visualization).
- Provide CG-9 a core competency for analysis, modeling and simulation by investigating/developing modeling approaches that provide more efficacy and efficiency for acquisition decision-making.

Sponsor: CG-926
Stakeholder(s): M&S Council



Key Milestone / Deliverable Schedule:

Project Start……..	29 Nov 11 ✓
Sponsor Performance Gap Meetings……	As Required
Stand-up New M&S COE Space at RDC……	Jan 13
Import Sector Staffing Model to COE …….	Apr 13
New Project PEPs/Proposals/Tasks……	As Required
Accreditation Management……	As Required
Technology Conferences……	As Required
Project End ……..	TBD

Project #:	Tier:	RDC POC:	CG-926 Domain Lead:
9997	3	CDR Sean Lester 860-271-2880	LT Derek Storolis 202-475-3492

Expected Benefit:

Add to general R&D knowledge base

Notes:

★ Indicates RDC product.

Short Term Modeling & Simulation Support Efforts (M&S COE Tasks)

Purpose:

Provide Modeling, Simulation or Analysis to focused operational or business questions. Short term efforts are characterized by limited complexity with the need for standard technical and contracting approaches.

FY13 Efforts:

Submission Date	Task	Title	Office Supported	Funding Type
NEW	7400007	COAST Boat & SAR Module VV&A POA	CG-7	RDT&E
Ongoing	7400008	CGMOES Excursions for NSC 6,7,8 and 210 DAFHP	CG-771	OE
Ongoing	7400009	S&T BMD Short Term Support	DHS S&T	S&T
Ongoing	7400010	VV&A of OREOs		RDT&E

Operational Testing of Alternative Fuels

Mission Need: The means to meet mandated future greenhouse gas emissions and energy reduction targets.

Project Objectives:

- Identify benefits from CG use of alternative, lower carbon footprint diesel and gasoline replacement fuels in its boats based on materials, bench and operational tests.
- Cooperative Research and Development Agreements (CRADA) with engine manufacturers Honda, Mercury and Cummins and a MIPR with Oak Ridge National Laboratory will be leveraged to provide technical expertise on alternative fuels.

Sponsor: CG-731
Stakeholder(s): CG-453, SFLC

Key Milestone / Deliverable Schedule:

Project Start	16 Feb 11	✓
CRADA with Honda	9 Jun 11	✓
CRADA with Mercury Marine	12 Jan 12	✓
CRADA with Cummins	2 Feb 12	✓
Conduct Diesel Testing	Sep 12	
★ **Evaluation of a Diesel Fuel Alternative for Coast Guard Boats**	**Mar 14**	
Conduct Gasoline Testing	Apr 13	
★ **Evaluation of a Gasoline Fuel Alternative for Coast Guard Boats**	**Nov 14**	
Project End	Dec 14	

★ Indicates RDC product.

Project #:	Tier:	RDC POC:	CG-926 Domain Lead:
4103	3	Mr. Mike Coleman 860-271-2708	LCDR Anthony Erickson 202-475-3748

Expected Benefit:

Direct Product Line/Core Technology Support (Tech refresh, DMS, etc

Notes:

Project includes use of CRADAs.

Cost Benefit Analysis of CG Using Boat Lifts

Mission Need: Reduce maintenance costs associated with in water storage of Coast Guard Boats.

Project Objectives:

- Determine if boat maintenance and repair costs are reduced sufficiently by storing Coast Guard boats out of water on a boat lift or similar system to offset the costs of installation, maintenance, operation and training of the storage system.
- Recommendations as to whether the CG should pursue future utilization of this solution will be included and salient characteristics of the recommended style of lift.

Sponsor: CG-926
Stakeholder(s): SFLC

Key Milestone / Deliverable Schedule:

Project Start	8 Dec 11	✓
Investigate Boat Lifts and Costs	1 Mar 12	✓
Install Boat Lifts for Evaluation Period	5 Sep 12	✓
Execute Technology Transfer Agreement	Feb 14	
★ **Boat Lift Evaluation Report**	**Mar 14**	
Project End	Apr 14	

Project #:	Tier:	RDC POC:	CG-926 Domain Lead:
5103	3	LT Brent Fike 860-271-2891	LCDR Anthony Erickson 202-475-3748

Expected Benefit:

Direct Product Line/Core Technology Support (Tech refresh, DMS, etc

Notes:

★ Indicates RDC product.

JNLWD Small Vessel Entanglement

Mission Need: A capability to non-lethally stop a non-compliant vessel.

Project Objectives:

Team with NSWC Dahlgren and Carderock to:

- Continue to conduct tests on outboard and inboard vessels,
- Continue to optimize full-scale net design, and
- Develop and demonstrate launcher capabilities.

Sponsor: CG-721
Stakeholder(s): JNLWD, RNWC

Key Milestone / Deliverable Schedule:

Project Start	12 Dec 07	✓
Net Optimization Tests vs. Inboard Vessels	21 Jan 11	✓
Net Optimization Tests vs. Outboard Vessels	2 Aug 11	✓
Launcher Modification	2 Oct 11	✓
SVSE Prototype System Delivered/DT&E	26 Mar 12	✓
SVSE TTA Signed	Oct 13	
★ **SVSE SNARE Operational Suitability Assessment**	**Dec 13**	
Project End	Jan 14	

Project #:	Tier:	RDC POC:	CG-926 Domain Lead:
56411	3	Ms. D. J. Hastings 860-271-2798	LCDR Anthony Erickson 202-475-3748

Expected Benefit:

Inform follow-on acquisition/enterprise deployment

Notes:

★ Indicates RDC product.

Arctic Craft Investigation

Mission Need: Boat capability to support mission operations in the Arctic.

Project Objectives:

- Conduct technical and market research on craft that could provide the CG with Arctic capability.
- Conduct a demonstration of Arctic craft to evaluate their effectiveness to execute CG missions on the North Slope of Alaska.
- Identify and test technologies that could be implemented to improve a craft's Arctic capabilities.

Sponsor: CG-731
Stakeholder(s): D17, SFLC

Key Milestone / Deliverable Schedule:

Project Start ..... 1 Oct 10 ✓

★ **Arctic Craft Investigation Report .....20 Aug 11** ✓

★ **Demonstration in Arctic .....Nov 12**

Research technologies for Arctic craft ..... Dec 12

★ **Improving Craft Capabilities for Arctic Operations ..... Sep 13**

Project End ..... Sep 13

Project #:	Tier:	RDC POC:	CG-926 Domain Lead:
6204	3	Mr. Jason Story 860-271-2833	LCDR Anthony Erickson 202-475-3748

Expected Benefit:

Inform follow-on acquisition/enterprise deployment

Notes:

Project includes use of a BAA.

★ Indicates RDC product.

Arctic Shield 2012 Capabilities Documentation

Mission Need: A scientific analysis (R&D) on the affects of the Arctic environment on the performance of CG Programs of Record capabilities.

Project Objectives:

- Establish RDC as the CG go to organization for R&D efforts in the Arctic.
- Document and analyze the SORS deployment under Arctic Shield 2012 and make recommendations for planning necessary R&D to support Arctic oil spill capability.
- Obtain information on authorized communications demonstration activities to support planning future R&D efforts.

Sponsor: CG-5RI

Stakeholder(s): CG-761, CG-926, D17

Key Milestone / Deliverable Schedule:

	Project Start	4 Apr 12 ✓
	SORS Deployment Exercise.....	3 Aug 12 ✓
	Arctic Shield Deployment ends.....	Oct 12
★	**SORS Deployment Report Delivered.....**	**Dec 12**
★	**Comms Report Delivered.....**	**Jul 13**
	Project End	Aug 13

Project #:	Tier:	RDC POC:	CG-926 Domain Lead:
6207	2	Mr. Scot Tripp 860-271-2680	Mr. Shannon Jenkins 202-475-3490

Expected Benefit:

Add to general R&D knowledge base

Notes:

★ Indicates RDC product.

Arctic Operations Support 2013

Mission Need: A scientific analysis (R&D) on the effects of the Arctic environment on CG mission execution.

Project Objectives:

- Establish clear RDT&E objectives for supporting CG missions in the Arctic.
- Document and analyze activities conducted during Arctic Shield 2013 and make recommendations for improving CG capabilities and Mission effectiveness.

Sponsor: CG-5RI

Stakeholder(s): CG-761, CG-926, D-17, DHS S&T (OUP)

Key Milestone / Deliverable Schedule:

	Project Start	Oct 12
	Determine Nature of Support	Nov 12
	Approved Plan	Feb 13
	Arctic Support	Nov 13
★	**Documentation of 2013 Arctic R&D Support**	**Feb 14**
	Project End	Mar 14

Project #:	Tier:	RDC POC:	CG-926 Domain Lead:
6209	3	Mr. Scot Tripp 860-271-2680	Ms. Mary Kate Watts 202-475-3724

Expected Benefit:

Add to general R&D knowledge base

Notes:

★ Indicates RDC product.

Anti-Icing Technologies Investigation

Mission Need: Reduce ice accumulation impact on Coast Guard vessel missions and shore communication effectiveness in cold weather and Arctic operations.

Project Objectives:

- Establish current Coast Guard anti-icing capabilities.
- Review requirements for anti-icing.
- Anti-icing capabilities market research.
- Develop roadmap for testing and evaluation of promising anti-icing coatings.

Sponsor: CG-751
Stakeholder(s): CG-731, CG-WWM, CG-6

Key Milestone / Deliverable Schedule:

Project Start	14 Nov 11	✓
Market Research Complete	Sep 12	
★ **Vessel Anti-icing Roadmap.....**	**Apr 13**	
Project End	May 13	

Project #:	Tier:	RDC POC:	CG-926 Domain Lead:
6507	3	Mr. Scot Tripp 860-271-2680	LCDR Anthony Erickson 202-475-3748

Expected Benefit:

Add to general R&D knowledge base

Notes:

★ Indicates RDC product.

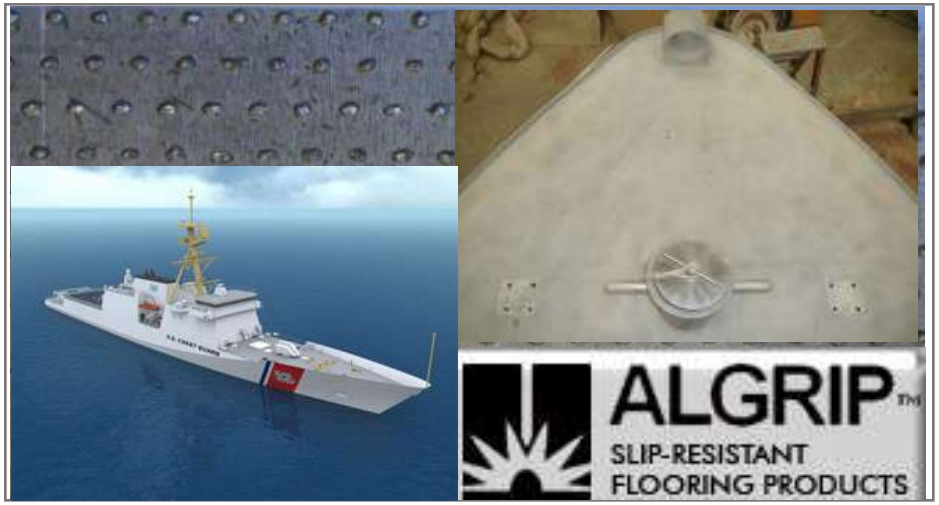
Laser Deposited Nonskid (LDN) Analysis

Mission Need: A more cost effective and reliable non-skid technology.

Project Objectives:

- Research characteristics of LDN plate (aluminum & steel) with OGA (e.g., Navy) and academia, with regard to:
  - Weld quality after LDN application;
  - Effects of Corrosion to LDN, as evident in a marine environment; and
  - Determine if this emerging technology offers a significant Life-Cycle Cost (LCC) savings.

Sponsor: CG-45
Stakeholder(s): SFLC



Key Milestone / Deliverable Schedule:

Project Start ..... 18 Nov 11 ✓

★ **Laser Deposited Nonskid (LDN) Analysis Report..... Feb 13**

Project End ..... Mar 13

Project #:	Tier:	RDC POC:	CG-926 Domain Lead:
7747	3	Ms. D.J. Hastings 860-271-2798	LCDR Anthony Erickson 202-475-3748

Expected Benefit:

Direct Product Line/Core Technology Support (Tech refresh, DMS, etc

Notes:

★ Indicates RDC product.

Evaluation of 270' WMEC Pitch/RPM Schedules

Mission Need: Improved energy efficiency in the operation of cutters to help meet energy conservation goals and greenhouse gas (GHG) reduction goals.

Project Objectives:

- Assess pre-determined pitch/RPM combinations through comprehensive underway data collection with an operational cutter.
- Analyze results and compare with prior (1998) fuel savings projections.
- Deliver recommendations for implementation.

Sponsor: CG-46
Stakeholder(s): SFLC

Key Milestone / Deliverable Schedule:

	Project Start	Nov 12
	Complete Data Collection	Sep 13
	Complete Data Analysis	Nov 13
★	**Letter Report – "Evaluation of 270'WMEC Pitch/RPM Schedule Changes"**	**Feb 14**
	Project End	Mar 14

Project #:	Tier:	RDC POC:	CG-926 Domain Lead:
7805	3	Mr. Jay Carey 860-271-2702	LCDR Anthony Erickson 202-475-3748

Expected Benefit:

Direct Product Line/Core Technology Support (Tech refresh, DMS, etc

Notes:

★ Indicates RDC product.

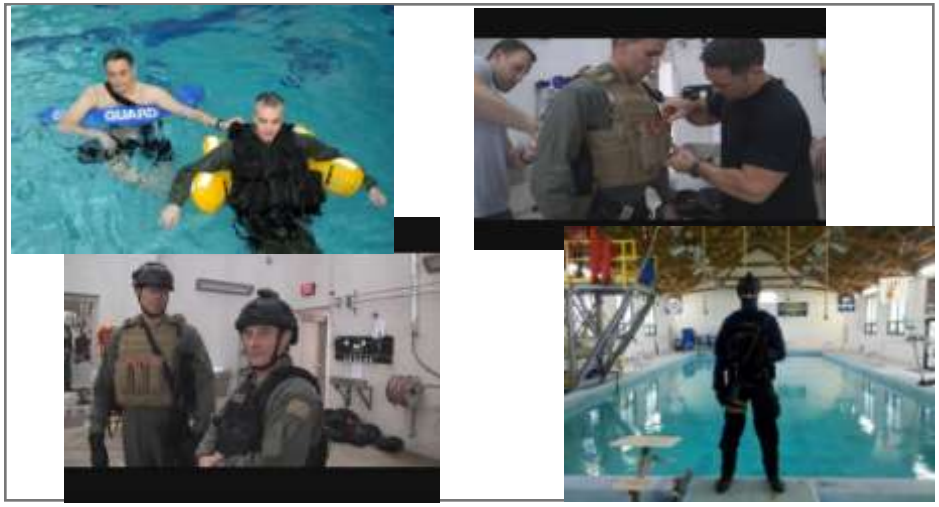
Tactical Flotation & Buoyancy

Mission Need: A heads-up flotation system and equipment kits to support unconscious (or incapacitated) tactical operators .

Project Objectives:

- Develop a heads-up flotation solution for the unconscious or incapacitated member.
- Identify lighter, more streamlined and cost effective DSF Tactical Operator equipment.

Sponsor: CG-4
Stakeholder(s): CG-731



Key Milestone / Deliverable Schedule:

Project Start ……..	1 Nov 11	✓
Key Decision Point (Flotation System)……	28 Mar 12	✓
Complete Flotation System Testing……	Nov 12	
Complete Reduced Gear Weight Testing……	Nov 12	
★ **Heads-Up Flotation System Report ……..…**	**Feb 13**	
★ **50 lbs Gear Weight Kit Report ……..…**	**Feb 13**	
Project End ……	Mar 13	

Project #:	Tier:	RDC POC:	CG-926 Domain Lead:
7924	3	Mr. Brian Dolph 860-271-2817	LCDR Anthony Erickson 202-475-3748

Expected Benefit:

Direct Product Line/Core Technology Support (Tech refresh, DMS, etc

Notes:

★ Indicates RDC product.

Surface Branch Support

Mission Need: Maintenance of RDC Branch competencies and knowledge; provide rapid response; and provide external liaison.

Project Objectives:

- Maintain RDC competency and technical knowledge in understanding present and future CG Port Security and Law Enforcement Mission Performance Gaps. Maintain competency and technical knowledge in Vessel Technology, Alternative Energy, and Acquisition Programs Support.
- Support CG Weapons Of Mass Destruction (WMD) program by providing subject matter expertise and OGA leveraging.
- Coordinate Arctic projects.

Sponsor: CG-926

Stakeholder(s):

Key Milestone / Deliverable Schedule:

Project Start	7 Dec 07 ✓
Sponsor Performance Gap Meetings	As Required
Potential Project Field Visits	As Required
New Project Execution Plans (PEP's)	As Required
New Project Proposals	As Required
Technology Demos	As Required
Technology Conferences	As Required
Project End	TBD

Project #:	Tier:	RDC POC:	CG-926 Domain Lead:
9994	3	Mr. Rich Hansen 860-271-2866	LCDR Anthony Erickson 202-475-3748

Expected Benefit:

Add to general R&D knowledge base

Notes:

★ Indicates RDC product.

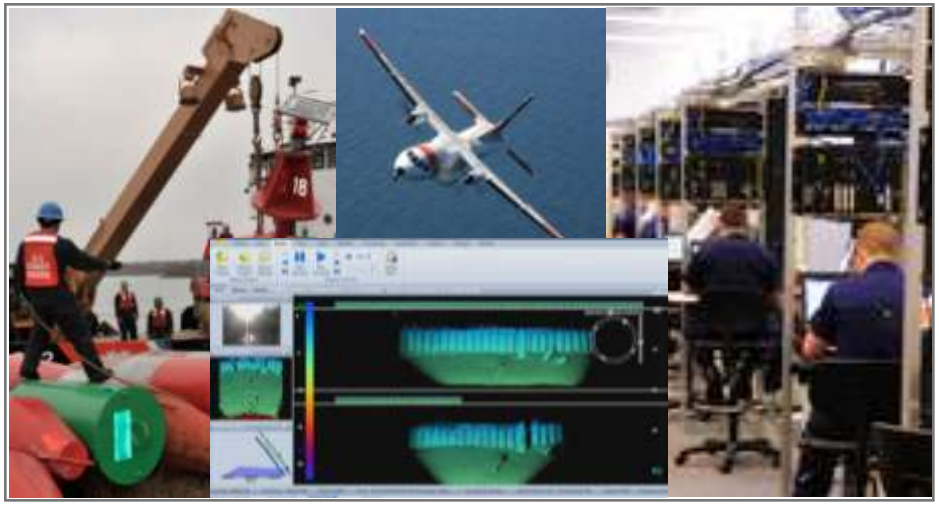
Composite Strategic Investment Teams

Mission Need: A shared vision for mitigating critical Evergreen III "Strategic Needs" between CG RDT&E Program and CG Program Managers contending with changing mission demands .

Project Objectives:

- Develop a shared vision of future CG operational capabilities in selected CG mission areas with key Program Managers.
- Create, with solid CG Program Manager support, FY15 and beyond annual CG RDT&E and CG Program appropriation budget space for mitigating critical capability gaps.
- Provide validated CG operational capability gaps into the RDC annual portfolio development process.

Sponsor: CG-095
Stakeholder(s): CG-926



Key Milestone / Deliverable Schedule:

	Project Start	7 Apr 09 ✓
★	**Draft POAMs for Arctic & Intel..... 31 Jul 09**	✓
★	**Draft POAMs for Arctic, C2, ISR, Aviation, M&S, Alternative Energy, & Surface Asset Technology..... 22 Sep 10**	✓
★	**Draft POAMs for Arctic, C2, ISR, Aviation, M&S, Alt Energy, & Surface Asset Technology..... 9 Aug 11**	✓
★	**CG Aids to Navigation (AtoN) Capability Gaps for FY12..... 5 Sep 12**	✓
★	**CG Underwater Asset Capability Gaps for FY12..... Oct 12**	
★	**CG C4ISR / Intel Capability Gaps for FY12..... Oct 12**	
★	**Draft POAMs for Evergreen III Aviation & Arctic Sep 13**	
★	**Prioritized Gaps for Evergreen III Cyber "Need" Sep 13**	
	Project End	TBD

★ Indicates RDC product.

Project #:	Tier:	RDC POC:	CG-926 Domain Lead:
99961	3	Mr. Jim Gynther 860-271-2858	Mr. Dave England 202-475-3087

Expected Benefit:

Add to general R&D knowledge base

Notes:

Short Term Analytical Support Efforts (REACT Reports)

Purpose:

Provide short term analytical to support CG decision makers with a means to access quick, inexpensive analyses to investigate a wide range of technology issues relating to current or planned CG operations or procurements. Larger analytical support projects will typically require funding to cover the cost of R&D Center labor & overhead and other direct costs.

FY13 Efforts:

Submission Date	Title	Office Supported
Ongoing	Inland Construction Tender Fleet Mix	CG-932
Ongoing	OPC Homeport Analysis	CG-932

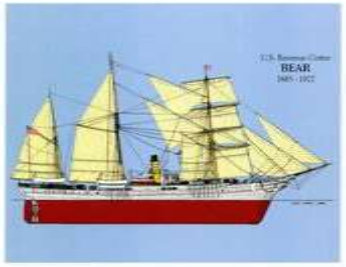
USCG Search for the BEAR

Mission Need: Locate the wreck of the former Revenue Cutter BEAR in the vicinity of Brown's Bank, North Atlantic Ocean.

Project Objectives:

- Coordinate with National Oceanographic and Atmospheric Association (NOAA) to locate and explore the wreckage of the former Revenue Cutter BEAR, which foundered under tow and sank in the North Atlantic in March 1963, using CG SAROPS and Underwater Imaging System as well as NOAA research vessels and attached equipment.
- Use patrol planning and execution as a training tool for NOAA Officer Candidates and USCG CGA Cadet Training Program.

Sponsor: LANTAREA Historian's Office
Stakeholder(s): NOAA, CGA



Key Milestone / Deliverable Schedule:

	Project Start ……	Aug 12
	Planning Workshop for NOAA and SAROPS…….	Oct 12
	Search Areas Validated……	Nov 12
	Charter Approved and Signed……..	Dec 12
★	**Memorandum of Agreement Signed……**	**Dec 12**
	Patrol Plans Approved……..	Jan 13
	Spring Patrol……..	Mar 13
	Early Summer Patrol……	May 13
★	**BEAR located……**	**TBD**

★ Indicates RDC product.

Project #:	Tier:	RDC POC:	CG-926 Domain Lead:
N/A	3	CDR Octavia Ashburn	N/A

Expected Benefit:

Add to general R&D knowledge base

Core Search Team Composition:

LANTAREA Historian
CG RDC x 2
International Ice Patrol x 2
NOAA x 2
CGA x 2
Documentation Team (Volunteers) x 6
Others - TBD

Acquisition Directorate

Research & Development Center

RDC FY13 Project Portfolio

Externally Funded Projects

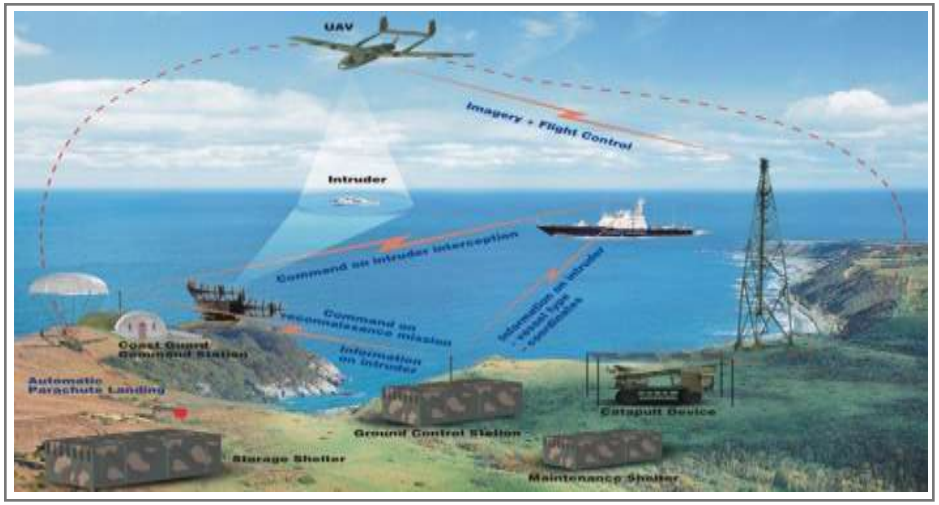
C-144 Video and Mission Processor (VAMP)

Mission Need: Process, exploit, and disseminate (PED) signals of interest as part of airborne, forward collections platforms to support advanced surveillance, identification, classification, and interception.

Project Objectives:

- Assess deficiencies in the Video & Mission Processor (VAMP); provide recommendations on a State-Of-The-Market (SOTM) VAMP-"like" device to replace existing device.

Sponsor: CG-933
Stakeholder(s): CG-761, CGCG, CG-251



Key Milestone / Deliverable Schedule:

	Project Start ……	Oct 12
	Stakeholder workshop ……	Oct 12
	Review (VAMP) BAA results……..……	Jan 13
	Conduct Flight Tests of upgraded VAMP ..……..	Mar 13
★	**Report on VAMP upgrade……**	**May 13**
	Project End ……	May 14

Project #:	Tier:	RDC POC:	CG-926 Domain Lead:
2013.035	1	Ms. Val Arris 860-271-2849	CDR Tung Ly 202-475-3011

Expected Benefit:

Direct Acquisition Support (MAR, MNS, CONOPS, ORD, AA, LCCE, T&E, etc)

Notes:

★ Indicates RDC product.

NSC Side Davit Launch and Recovery Simulation

Mission Need: Improvement in NSC launch and recovery operations.

Project Objectives:

- Develop, integrate and analyze motion control strategies.
- Provide human-in-the-loop simulation of launch and recovery based on existing davit technology.
- Produce a report to support IOT&E.

Sponsor: CG-9321

Stakeholder(s):

Key Milestone / Deliverable Schedule:

	Project Start ….……	Nov 12
★	**RDC Product (Report) ……..……**	**Aug 13**
	Project End ……..…….……	Sep 13

Project #:	Tier:	RDC POC:	CG-926 Domain Lead:
2013.037	3	Dr. Anita Rothblum 860-271-2847	LT Derek Storolis 202-475-3492

Expected Benefit:

Direct Acquisition Support (MAR, MNS, CONOPS, ORD, AA, LCCE, T&E, etc)

Notes:

★ Indicates RDC product.

Nationwide Automated Information System (AIS) Acquisition

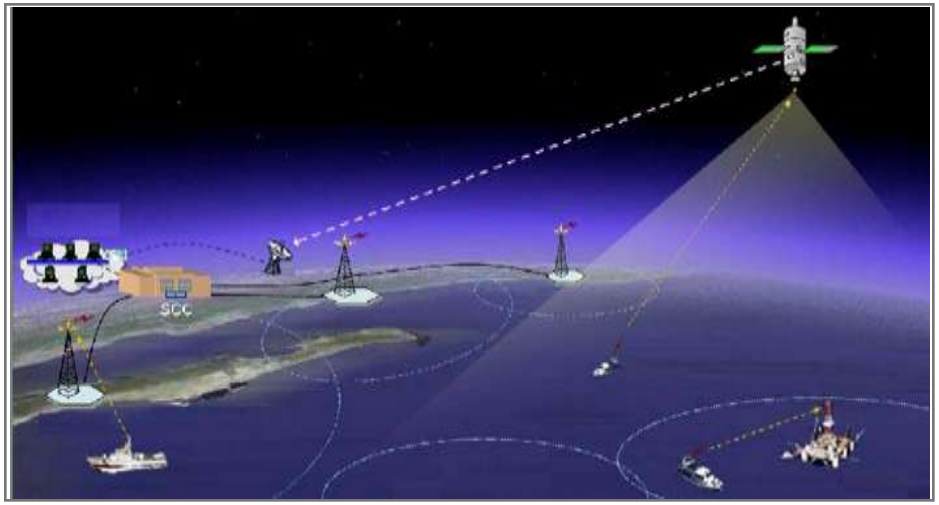
Mission Need: Analyses and tool development to support acquisition of the NAIS Permanent Transceive (PT) System.

Project Objectives:

- Develop software and methods needed to support transition to NAIS PT Initial Operation Capable (IOC) System from NAIS Interim System.
- Develop tools and methods to monitor and evaluate operation of the NAIS PT IOC System performance and transmit capability for compliance with national and international VDL usage guidelines.

Sponsor: CG-9332

Stakeholder(s):



Key Milestone / Deliverable Schedule:

Project Start…….. Jun 05 ✓
Implement Temporary System Operation Center…….Oct 06 ✓
Deploy NAIS Interim System Network.....24 Mar 08 ✓
⋮
★ **Increment-1 Interface Control Document…... 27 May 09** ✓
★ **Technical Assessment of AIS Reception from Orbcomm Satellites……...1 Jul 09** ✓
★ **Modifications to I-1 Software suitable for use with the I-2 NAIS Network…….……19 Sep 12** ✓
★ **Establish Capability to Monitor and Evaluate Operation of the NAIS PT IOC System Transmit…….. Aug 13**
★ **Perform Daily NAIS PT IOC System Reception Performance Analysis…….……..Sep 13**
Project End……..…….. Dec 13

★ Indicates RDC product.

Project #:	Tier:	RDC POC:	CG-926 Domain Lead:
2411	2	Mr. Lee Luft 860-271-2685	CDR Tung Ly 202-475-3011

Expected Benefit:

Direct Acquisition Support (MAR, MNS, CONOPS, ORD, AA, LCCE, T&E, etc)

Notes:

Operational Testing of ESS

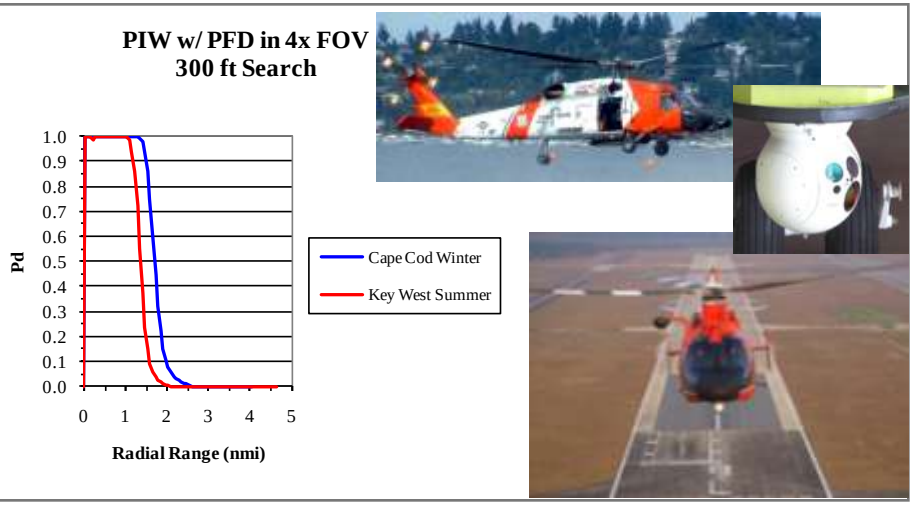
Mission Need: TTPs and field-validated operational performance data for the Electro-Optical Infrared Sensor System (ESS).

Project Objectives:

- Validate effectiveness and provide recommendations to improve current ESS settings, configurations and employment techniques on the MH-60T and MH-65C/D helicopters.
- Develop lateral range curves and sweep widths for the ESS Thermal Imager against typical SAR targets.
- Characterize operational performance and provide TTP input for all ESS components.

Sponsor: CG-931

Stakeholder(s):



Key Milestone / Deliverable Schedule:

Project Start ……9 Dec 10 ✓
Phase 1 At-sea Sensor Setting Verification ……1 May 11 ✓
★ **Post-test Briefing on ESS Validation Test……15 Jun 11** ✓
Phase 3 At-sea Operational Performance Testing…14 Oct 11 ✓
★ **Interim Report & Brief on FY11 ESS Operational Performance Testing.....28 Mar 12** ✓
Phase 4 At-sea Operational Test Event 1…..... Nov 12
Phase 4 At-sea Operational Test Event 2…… May 13
★ **Post-test Briefing on ESS Phase IV Test…… Jul 13**
★ **Final Report & Brief on FY11 ESS Operational Performance Testing..... Dec 13**
Project End …… Jan 14

★ Indicates RDC product.

Project #:	Tier:	RDC POC:	CG-926 Domain Lead:
7603	3	LT Stephen Dunn 860-271-2789	CDR Albert Antaran 202- 475-3049

Expected Benefit:

Improved Doctrine/CONOPs/TTPs

Notes:

Support for H65 RADAR Replacement

Mission Need: Support the H65 RDR 1300(C) Bendix/King RADAR replacement.

Project Objectives:

- Review and provide technical feedback on the RFI responses.
- Provide technical support to assist with preliminary specification (P-Spec) document and drafting RFP.
- Review and provide technical feedback on the RFP responses.
- Provide support to model RADAR performance capabilities from vendor data in order to effectively compare candidate products and assist in source selection.

Sponsor: CG-9315

Stakeholder(s):

Key Milestone / Deliverable Schedule:

Project Start ……..	3 Mar 11 ✓
RFI Technical Support..…….....	30 Jun 11 ✓
P-Spec Technical Support……	1 Sep 12 ✓
RFP Technical Support…….……	Feb 13
★ **Technical Support for H-65 Radar Replacement……**	**Apr 13**
Source Selection Committee Technical Support..	Apr 13
Project End ……..……..	May 13

Project #:	Tier:	RDC POC:	CG-926 Domain Lead:
7604	3	LCDR Tom Hickey 860-271-2818	CDR Albert Antaran 202- 475-3049

Expected Benefit:

Direct Acquisition Support (MAR, MNS, CONOPS, ORD, AA, LCCE, T&E, etc)

Notes:

★ Indicates RDC product.

ECAT Modeling to Evaluate CG Display Design

Mission Need: A cost-effective means to evaluate the design of operator displays.

Project Objectives:

- Demonstrate the value of the ECAT model to evaluate and improve the design of CG displays.

Sponsor: CG-1B3
Stakeholder(s):

Key Milestone / Deliverable Schedule:

	Project Start ……	Oct 12
	Select Scenarios/Tasks for Display Design……	Feb 13
	Design and Test Alternative Displays ……	May 13
	Present Briefing to Sponsor ……	Jul 13
★	**Use of ECAT to Evaluate CG Displays…..……..…**	**Aug 13**
	Project End ……	Sep 13

Project #:	Tier:	RDC POC:	CG-926 Domain Lead:
2012.037	3	Dr. Anita Rothblum 860-271-2847	Mr. Jaurin Joseph 202- 475-3493

Expected Benefit:

Improve operational performance/efficiency/mission execution/resiliency

Notes:

★ Indicates RDC product.

Development of a Modernized IMO GMDSS

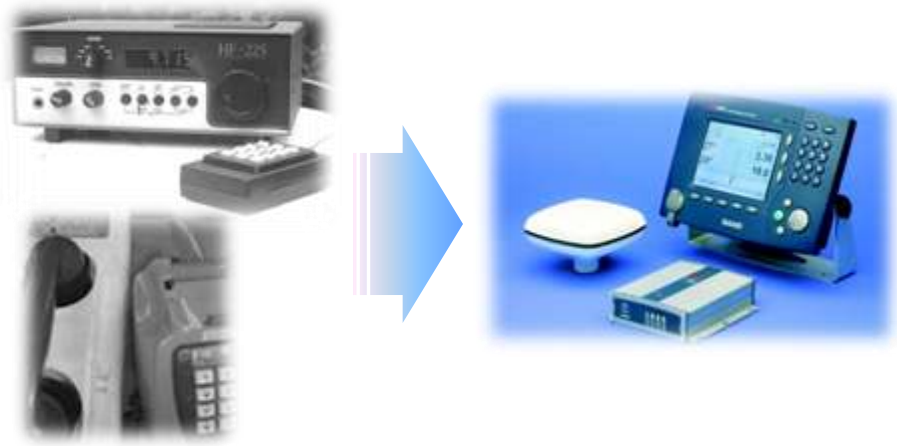
Mission Need: Participation in Standards Development to support Modernization of the Global Maritime Distress Signal System (GMDSS) by the IMO.

Project Objectives:

- Participate in the IMO's Report Drafting Group which will author a modernized GMDSS for the SOLAS convention.
- Avoid telecommunications regulators imposing high-cost and unsustainable solutions upon the CG. Incorporate new technologies such as AIS, networks, & modern navigation systems.
- Developing a sustainable and economic GMDSS solution which improves maritime safety and lessens the burden of CG SAR operators & watchstanders.

Sponsor: CG-652

Stakeholder(s):



Key Milestone / Deliverable Schedule:

Project Start ……..…….. Oct 12

★ **Draft High Level Review of Modernized GMDSS Sep 13**

★ **Draft Detailed Review of Modernized GMDSS…. Sep 14**

★ **Outline of Modernization Plan…… Sep 15**

★ **Completed Modernization Plan…… Sep 16**

★ **Endorsed Modernization Plan…….. Sep 17**

Project End ……..……. Sep 17

Project #:	Tier:	RDC POC:	CG-926 Domain Lead:
2013.018	3	Mr. Jon Turban, P.E. 860-271-2824	CDR Tung Ly 202-475-3011

Expected Benefit:

Influence international standards

Notes:

★ Indicates RDC product.

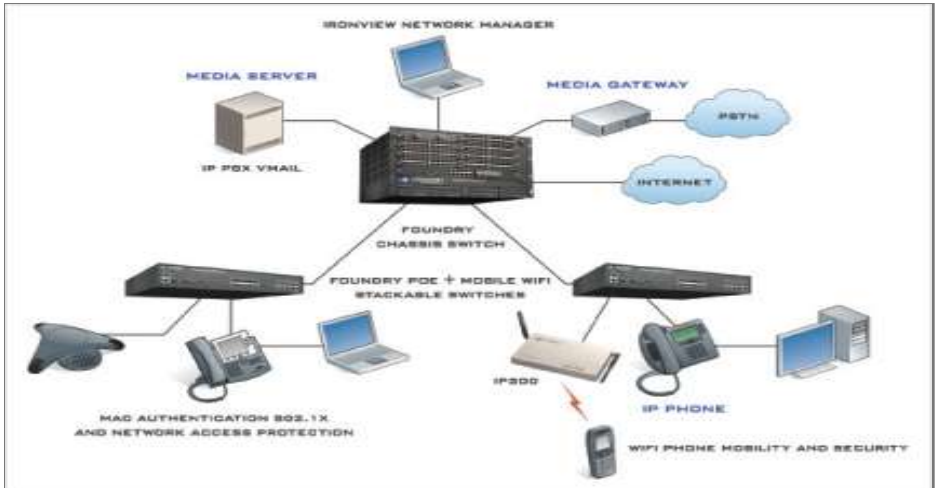
IP Based Communications Interface Systems Assessment

Mission Need: One CAMS ability to Control all COMSTAs and the other CAMS.

Project Objectives:

- Provide the CG C3CEN with quantitative data on IP based communications interface systems capabilities to support acquisition decisions relating to facilitating the ability for one CAMS to control all COMSTAs and the other CAMS.

Sponsor: CG-761
Stakeholder(s): C3CEN, CAMS-OCE



Key Milestone / Deliverable Schedule:

	Project Start	Oct 12
	Identify IP Interface Capabilities for Testing	Feb 13
	Develop Test Plan for Interface Validation	Apr 13
	Identify an IP based System for Testing	Sep 13
	Test System and Analyze Results	Jan 14
	Perform Cost Benefit Analysis on IP Based Communications Equipment	Mar 14
★	**IP Based Comms Interface System Assessment Report**	**Jun 14**
	Project End	Aug 14

Project #:	Tier:	RDC POC:	CG-926 Domain Lead:
2013.031	3	Ms. Judith Connelly 860-271-2643	CDR Tung Ly 202-475-3011

Expected Benefit:

Direct Product Line/Core Technology Support (Tech refresh, DMS, etc

Notes:

★ Indicates RDC product.

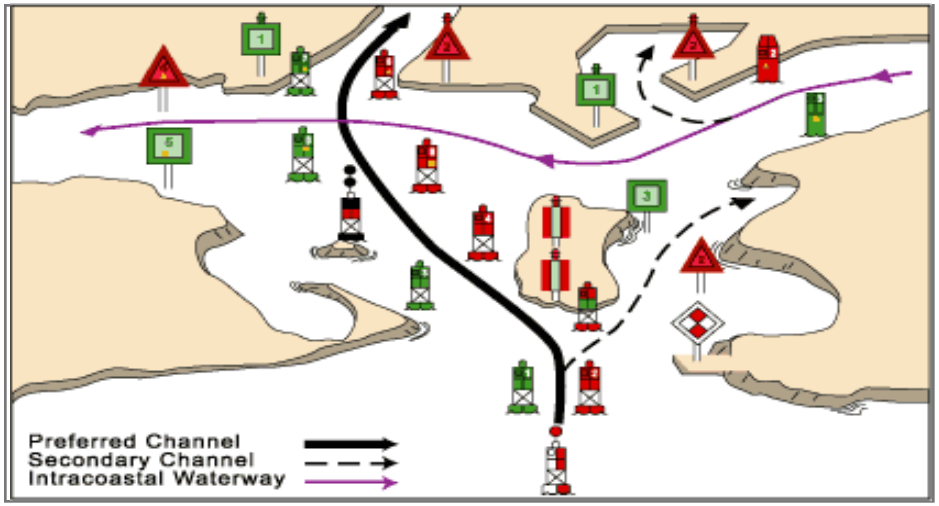
Project Navigation 2025 Prototype Implementation

Mission Need: A design, implementation, and analysis of a new 21st Century Aids to Navigation System (one that is heavily based on electronic navigation capabilities and less on physical aids) within two US ports / waterways.

Project Objectives:

- Conduct initial business case for a spatial waterways design capability per System Development Life Cycle (SDLC) process.
- Analyze alternatives for modernized Western Rivers waterway designs.
- Prepare for Design Phase of Navigation 2040 – Prototype Implementation project.

Sponsor: CG-5PW
Stakeholder(s): DOT (VOLPE), ACOE



Key Milestone / Deliverable Schedule:

	Project Start …….….....	26 Jul 12 ✓
	Conduct Initial Business Case…….	Sep 12
★	**Nav 2040 - Initial Business Case for a Waterways Design and Spatial Analysis Capability……**	**Jun 13**
	Analyze Alternatives for Western Rivers……..…….	Apr 13
★	**Nav 2040 – Analysis of Alternatives for Waterway Designs on the Western Rivers ……..…**	**Aug 13**
	Project End ……..……	Sep 13

Project #:	Tier:	RDC POC:	CG-926 Domain Lead:
2301	2	Mr. Warren Heerlein 860-271-2625	LCDR Anthony Erickson 202-475-3748

Expected Benefit:

Improve operational performance/efficiency/mission execution/resiliency

Notes:

Support of Nav 2040 is anticipated to last 5 or more years.
Projects will be executed as a joint collaboration with USACE.

★ Indicates RDC product.

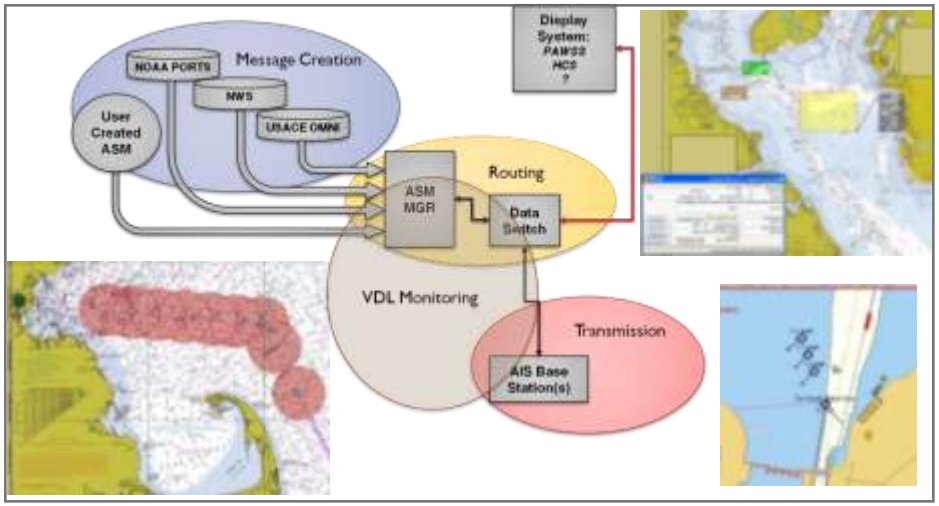
AIS Transmit Capability

Mission Need: Investigation and evaluation of the AIS transmit capability.

Project Objectives:

- Investigate requirements of users (government and commercial) for AIS binary message transmit.
- Evaluate the effectiveness of information disseminated from USCG Vessel Traffic Services (VTS) and other providers.
- Demonstrate and develop AIS binary message transmit capability.

Sponsor: CG-7413
Stakeholder(s): CG-761



Key Milestone / Deliverable Schedule:

	Project Start	2 May 07 ✓
★	**Technical Clarifications to IMO SN/Circ. 289**	**14 Feb 11 ✓**
★	**Input Paper to IALA eNav9 on AIS ASM's….**	**17 Mar 11 ✓**
★	**Input Paper on AIS ASMs to IMO Nav57……..**	**11 Apr 11 ✓**
★	**Transition Plan for Tampa……**	**8 Sep 11 ✓**
★	**Operational Framework for AIS Transmit……**	**10 Sep 12 ✓**
★	**Operational Implementation Plan for AIS Transmit……..…**	**Aug 13**
	Project End ……	Dec 14

★ Indicates RDC product.

Project #:	Tier:	RDC POC:	CG-926 Domain Lead:
2413	3	Ms. Irene Gonin 860-271-2694	CDR Tung Ly 202-475-3011

Expected Benefit:

Improve operational performance/efficiency/mission execution/resiliency

Notes:

NAIS Technical Forum and Performance Analysis Support

Mission Need: A review of and modification to international standards, assistance conducting VDL integrity monitoring and analysis, and support for sustainment of the NAIS Network.

Project Objectives:

- Participate in standards development.
- Provide project sponsor with VHF Data Link (VDL) integrity monitoring and analysis critical to maintaining the integrity of the NAIS.
- Provide the expertise and capabilities needed to support and sustain the NAIS network, and support transition to the NAIS Permanent Transceive (PT) System.
- .

Sponsor: CG-761
Stakeholder(s): CG-9332

Key Milestone / Deliverable Schedule:

Project Start…… 5 Dec 08 ✓
Attend AIS Standard Committee Meetings…. Oct 08–Sep 13
⋮
★ **Technical Inputs to IEC 61162 Series…….. 30 Aug 12** ✓
Technical Inputs to NMEA 2000 v2.0…….. 19 Sep 12 ✓
★ **Recommendations for Addressing Problems**
★ **Identified in the RDC Report ……..... Oct 12**
★ **Rhode Island Sound Traffic Study…….... Jan 13**
Technical Inputs to NMEA 2000 v2.0 Standard..... Sep 13
★ **Technical Inputs to IEC 61162-1 Interface Std……. Sep 13**
★ **Interim Report: VDL Analysis using New Long**
★ **Range AIS Instrumentation…… Sep 13**
Project End……..…… Dec 13

★ Indicates RDC product.

Project #:	Tier:	RDC POC:	CG-926 Domain Lead:
2419	3	Mr. Lee Luft 860-271-2685	CDR Tung Ly 202-475-3011

Expected Benefit:

Influence international standards

Notes:

General Engineering Laboratory Support

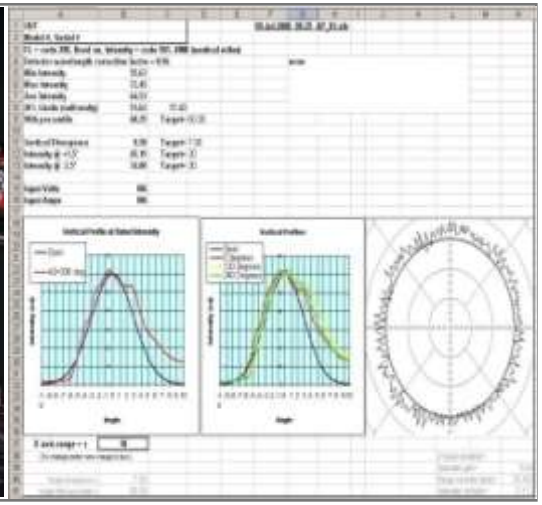
Mission Need: Test and Evaluation of Aids to Navigation to improve performance, lower costs and extend maintenance intervals.

Project Objectives:

- Provide a laboratory and test and evaluation services in support of the CG Aids to Navigation (AtoN) program.
- Conduct test and evaluation of AtoN to ascertain conformance with established regulatory and certification criteria.
- Evaluate the viability of emerging technologies to reduce CG operating/maintenance costs or alleviate (AtoN signal) problem areas.

Sponsor: CG-432

Stakeholder(s):



Key Milestone / Deliverable Schedule:

Project Start…… circa 72 ✓

★ **GELS FY12 Activity Summary 1st and 2nd Qt .. 09 Apr 12** ✓

★ **GELS FY12 Activity Summary 3rd and 4th Qtr 27 Sep 12** ✓

★ **GELS FY13 Activity Summary 1st and 2nd Qtr …. Apr 13**

★ **GELS FY13Activity Summary 3rd and 4th Qtr …. Sep 13**

Project End …… TBD

Project #:	Tier:	RDC POC:	CG-926 Domain Lead:
2784	3	Mr. Vincent Reubelt 860-271-2661	LCDR Anthony Erickson 202-475-3748

Expected Benefit:

Direct Product Line/Core Technology Support (Tech refresh, DMS, etc

Notes:

★ Indicates RDC product.

Command Center Capability Analysis Support

Mission Need: A comprehensive understanding of the essential /core set of Command Center capabilities.

Project Objectives:

- Establish a set of "baseline" (core) Command Center capability requirements (Phase 1).
- Use capability requirements to perform "gap analyses" for Sector, District, and Area Command Centers (potential Phase 2).

Sponsor: CG-7412

Stakeholder(s):

Key Milestone / Deliverable Schedule:

Project Start …….....	3 Apr 12	✓
Draft Capabilities Framework (2 missions)	28 Jun 12	✓
KDP: Continue with Remaining Missions….....	11 Jul 12	✓
Validate Complete Framework	Sep 12	
KDP: Continue to Phase 2.....	Sep 12	
★ **Command Center Capability Framework..…...…**	**Oct 12**	
Conclude Phase 1 .....…….....……	Oct 12	
Project End…….	TBD	

Project #:	Tier:	RDC POC:	CG-926 Domain Lead:
3402	3	Dr. Anita Rothblum 860-271-2847	Mr. Jaurin Joseph 202- 475-3493

Expected Benefit:

Improved Doctrine/CONOPs/TTPs

Notes:

★ Indicates RDC product.

Vessel Energy Efficiency Baselining Tool

Mission Need: **The means to improve energy efficient operation of cutters to meet greenhouse gas (GHG) emission reduction goals.**

Project Objectives:

- Exploit digital data capabilities of post-MEP 270' WMEC main propulsion control & monitoring system (MPCMS) by incorporating enhanced data logging and fuel oil metering into available data stream for future analysis.

Sponsor: CG-46
Stakeholder(s): SFLC

Key Milestone / Deliverable Schedule:

Project Start ……..….. 6 Jun 11 ✓

MPCMS Software Interface Developed…….…. Sep 12

GPS & Wind Sensors Integrated ……May 13

Fuel Oil Meter (FOM) Installation and Testing…….. Jun 13

★ **Vessel Energy Efficiency Baselining Tool/ Final Letter Report…….....…… Aug 13**

Project End ……..…… Aug 13

Project #:	Tier:	RDC POC:	CG-926 Domain Lead:
4109	3	Mr. Jay Carey 860-271-2702	LCDR Anthony Erickson 202-475-3748

Expected Benefit:

Direct Product Line/Core Technology Support (Tech refresh, DMS, etc

Notes:

★ Indicates RDC product.

Preliminary Business Case Analysis – Boat Stations

Mission Need: A preliminary Business Case Analysis to identify possible alternatives to the traditional brick and mortar boat station buildings and facilities.

Project Objectives:

- Create study plan.
- Conduct a high level requirements gap analysis.
- Conduct a preliminary Business Case Analysis (evaluate alternatives for CG Boat Stations in terms of risk, ROM life cycle costs, supportability and cost-benefit).

Sponsor: CG-731
Stakeholder(s): CG-D5

Key Milestone / Deliverable Schedule:

Project Start ……..	Oct 12
Create a Study Plan …….....	Apr 13
Site Visits (Other Federal Agencies, CG Small Boat Stations).....…….....	Apr 13
Conduct High Level Requirements Analysis	Jun 13
★ **Preliminary Business Case Analysis – Small Boat Station Facilities.…..... **	**Nov 13**
Project End ……..……..	Dec 13

Project #:	Tier:	RDC POC:	CG-926 Domain Lead:
5113	3	Ms. Monica Cisternelli 860-271-2741	LCDR Anthony Erickson 202-475-3748

Expected Benefit:

Direct Acquisition Support (MAR, MNS, CONOPS, ORD, AA, LCCE, T&E, etc)

Notes:

★ Indicates RDC product.

ORAM DOMICE Model Improvement

Mission Need: Correct inaccuracies in the prototype DOMICE risk model.

Project Objectives:

- Modify the prototype DOMICE risk model to improve accuracy and fidelity for the time step.

Sponsor: CG-5PW
Stakeholder(s): LANT-7, CG-751

Key Milestone / Deliverable Schedule:

	Project Start …….	Sep 12
★	**Domestic Icebreaking Simulation Model ……**	**Feb 13**
★	**Domestic Icebreaking Simulation Model User Guide ……..……...**	**Feb 13**
	Project End ……..……	Mar 13

Project #:	Tier:	RDC POC:	CG-926 Domain Lead:
7519	3	Mr. Mark VanHaverbeke 860-271-2754	LT Derek Storolis 202-475-3492

Expected Benefit:

Improved Doctrine/CONOPs/TTPs

Notes:

★ Indicates RDC product.

Underwater Imaging System Transition Evaluation

Mission Need: An integrated CG underwater detection and imaging organic CG capability.

Project Objectives:

- Identify where the UIS could add value/improve the operational efficacy of CG Missions relating to underwater operations.

Sponsor: CG-5RE

Stakeholder(s):

UIS on a TANB

Key Milestone / Deliverable Schedule:

Project Start ……..	29 Feb 12	✓
Technology Transition Agreement Signed……..	Nov 12	
★ **Mission Applicability Matrix…….....**	**Dec 12**	
Project End ……	Dec 12	

Project #:	Tier:	RDC POC:	CG-926 Domain Lead:
7748	3	Mr. Scot Tripp 860-271-2680	CDR Tung Ly 202-475-3011

Expected Benefit:

Improve operational performance/efficiency/mission execution/resiliency

Notes:

★ Indicates RDC product.

Maritime Security Operations Mission Analysis Report

Mission Need: A mission analysis for the MSO Program.

Project Objectives:

- Prepare a MSO Program MAR.
- Deliver a briefing.
- Deliver a final report.

Sponsor: DCO-81
Stakeholder(s): CG-DOD

Key Milestone / Deliverable Schedule:

Project Start ..... 16 May 12 ✓

★ **Maritime Security Operations Mission Analysis Briefing……..…….. Nov 12**

★ **Maritime Security Operations Mission Analysis Report……...……. Apr 13**

Project End ..... Apr 13

Project #:	Tier:	RDC POC:	CG-926 Domain Lead:
7926	2	Mr. Mark VanHaverbeke 860-271-2754	LT Derek Storolis 202-475-3492

Expected Benefit:

Direct Acquisition Support (MAR, MNS, CONOPS, ORD, AA, LCCE, T&E, etc)

Notes:

★ Indicates RDC product.

Chicago Sanitary Ship Canal (CSSC) Marine Safety Risk Analysis

Mission Need: A review of marine safety risks associated with the fish barrier to determine adequacy of present risk mitigation strategies and make recommendations for alternatives.

Project Objectives:

- Conduct an analysis of risks to marine safety for commercial and recreational mariners that transit the Chicago Sanitary and Ship Canal (CSSC) in the vicinity of the fish barrier.
- Determine adequacy of present risk mitigation strategies.
- If necessary, recommend alternatives to the present strategies.

Sponsor: CGD9 (dpi)
Stakeholder(s): USEPA-GLNPO

Key Milestone / Deliverable Schedule:

Project Start ..... 8 Nov 11 ✓

Data Collection and Analysis ..... 25 Aug 12 ✓

Consequence Investigation and Scientific Measurements .....Nov 12

Risk Analysis and Mitigation Strategies..... Mar 13

★ **CSSC Marine Safety Risk Analysis Report..... Apr 13**

Project End .....May 13

Project #:	Tier:	RDC POC:	CG-926 Domain Lead:
3329	3	Mr. M. J. Lewandowski 860-271-2692	Mr. Jaurin Joseph 202- 475-3493

Expected Benefit:

Improved Doctrine/CONOPs/TTPs

Notes:

★ Indicates RDC product.

GLRI BWT Shipboard Approval Tests

Mission Need: Capability to verify that ballast water treatment systems installed aboard ships meet discharge standards.

Project Objectives:

- Develop methodology and test protocols for approval/certification testing of BWT systems aboard ships.
- Coordinate with CG-5224 and MARAD to test BWT system aboard Laker.
- Evaluate BWT system in fresh water.

Sponsor: CG-5PS

Stakeholder(s): USEPA-GLNPO

Key Milestone / Deliverable Schedule:

Project Start ……..…...10 Jan 11 ✓

★ **Generic Protocol for Filtration Skid ...……..... 8 Jun 12** ✓

Begin Shipboard Tests ……... 26 Jul 12 ✓

★ **Validation of Filtration Skid During Land-Based & Shipboard Tests……...…….……Oct 12**

Key Decision Point to Pursue Fourth Test …… Sep 13

★ **Validation of Shipboard Testing Protocol……..... Jun 14**

Project End ……...……. Jul 14

Project #:	Tier:	RDC POC:	CG-926 Domain Lead:
41012	2	Ms. Penny Herring 860-271-2868	Mr. Jaurin Joseph 202- 475-3493

Expected Benefit:

Improved Doctrine/CONOPs/TTPs

Notes:

★ Indicates RDC product.

Shipboard Compliance of Ballast Water Discharge Standards (BWDS)

Mission Need: The tools to quickly and reliably determine vessel compliance with the Phase One and the proposed Phase Two ballast water discharge standards.

Project Objectives:

- Determine the availability and capabilities of existing technologies that could be utilized for compliance verification of Phase One and the proposed Phase Two ballast water discharge standards.

Sponsor: CG-5PS

Stakeholder(s): USEPA-GLNPO, CG-CVC2

Key Milestone / Deliverable Schedule:

	Project Start …….….	12 Jan 11 ✓
	Compliance Verification Technology Workshop….	28 Jun 11 ✓
★	**Proceedings of Ballast Water Discharge Standards Compliance Subject Matter Expert Workshop……..…**	**7 Sep 11 ✓**
★	**Market Research Assessment: Verification Technologies for BWDS Compliance…….**	**17 Oct 12 ✓**
	Concept Design of Compliance Tools……..	Dec 13
	Prototype Development of Compliance Tools……..	Nov 14
★	**Independent Field Testing of Prototype Compliance Verification Tools…….**	**Aug 15**
★	**Compliance Tool Transition Plan……**	**May 16**
	Project End……..……..	Jun 16

★ Indicates RDC product.

Project #:	Tier:	RDC POC:	CG-926 Domain Lead:
410131	2	Ms. Gail Roderick 860-271-2658	Mr. Jaurin Joseph 202- 475-3493

Expected Benefit:

Direct Product Line/Core Technology Support (Tech refresh, DMS, etc

Notes:

Develop CG Guidance to Verify Ballast Water Discharge Standards Compliance

Mission Need: Procedures to verify federal ballast water discharge standards.

Project Objectives:

- Describe CG requirements and future capabilities gaps.
- Companion project provides suitable potential technology solutions and tiered approach to numerical BDWS enforcement.
- Identify policy and non-material solutions that meet requirements.
- Develop guidance for CG enforcement of the new BWDS.

Sponsor: CG-5PS

Stakeholder(s): USEPA-GLNPO, CG-CVC-1, CG-CVC-2

Key Milestone / Deliverable Schedule:

Project Start …….. 15 Dec 11 ✓

★ **Guidance to Verify Ballast Water Discharge Standards Compliance……..…….. May 13**

Project End …… Aug 13

Project #:	Tier:	RDC POC:	CG-926 Domain Lead:
410132	3	Mr. Chris Turner 860-271-2623	Mr. Jaurin Joseph 202- 475-3493

Expected Benefit:

Improved Doctrine/CONOPs/TTPs

Notes:

★ Indicates RDC product.

Analysis Support for the Mandated Periodic & Practicability Reviews of Ballast Water Standards

Mission Need: To determine the practicability of implementing ballast water discharge standards more stringent than the current standards.

Project Objectives:

- Develop a plan for determining the practicability of implementing more stringent ballast water discharge standards.
- Conduct a practicability review that examines all aspects of the prevailing ballast water management program requirements, standards, and regulations and assesses the program's effectiveness in preventing invasions.

Sponsor: CG-5PS
Stakeholder(s): USEPA-GLNPO

Key Milestone / Deliverable Schedule:

	Project Start……..	Nov 12
	Phase I: BWDS Practicability Planning Meeting…..	Aug 13
★	**BWDS Practicability Review Plan…….**	**Feb 14**
	KDP: Conduct BWDS Practicability Review…….	Feb 14
	Phase II: A: Determine detection limits of testing protocols……	Nov 14
	Phase II: B: Determine thresholds of treatment technologies…….	May 15
	Phase II: C: Determine integration into ships' ops regime……	Oct 15
★	**BWDS Practicability Review……**	**Jan 16**
	Project End……	Feb 16

★ Indicates RDC product.

Project #:	Tier:	RDC POC:	CG-926 Domain Lead:
410133	3	Ms. Gail Roderick 860-271-2658	Mr. Jaurin Joseph 202- 475-3493

Expected Benefit:

Add to general R&D knowledge base

Notes:

Investigation of Ballast Water Treatment's Effect on Corrosion

Mission Need: Understanding of how ballast water treatment affects ballast tank corrosion in order to assess corrosion acceptability as part of type approval.

Project Objectives:

- Determine potential for accelerated ballast water tank corrosion from various ballast water treatments.
- Determine how CG can assess corrosion acceptability as part of type approval.

Sponsor: CG-5PS
Stakeholder(s): USEPA-GLNPO

Key Milestone / Deliverable Schedule:

Project Start…….……..…… 3 Nov 10 ✓
Phase 1 – Corrosion Scoping Study …..……..… 6 May 11 ✓
Desktop Literature Review
Shipboard Surveys (Lakers/Salties)
KDP for Phase 2……..……...…….... 1 Sep 11 ✓
★ **Interim Report: Corrosion Scoping Study….. 19 Oct 11** ✓
Phase 2 – Corrosion Rate Assessment Controlled
Laboratory Tests …..…… Oct 12
★ **Final Report: Corrosion Rate Assessment……..….Mar 13**
Project End……..…….. Apr 13

Project #:	Tier:	RDC POC:	CG-926 Domain Lead:
410142	2	Ms. Gail Roderick 860-271-2658	Mr. Jaurin Joseph 202- 475-3493

Expected Benefit:

Add to general R&D knowledge base

Notes:

★ Indicates RDC product.

Asian Carp Towboat/Barge Sampling Study

Mission Need: Understanding whether barge and vessel operations create a dispersal barrier bypass for Asian carp into the Great Lakes.

Project Objectives:

- Support the Barge/Towboat Work Group research.
- Evaluate towboat/barge potential for transporting Asian carp across the dispersal barrier.
- Evaluate carp survival in ballast tanks.
- Estimate impact of vessel operations on Asian carp movement.

Sponsor: CG-5PS

Stakeholder(s): USEPA-GLNPO

Key Milestone / Deliverable Schedule:

Project Start ……..	8 Apr 10	✓
Develop Plan with Work Group……	15 Apr 10	✓
★ **Water Transport During Normal Operations of Towboats and Barges on the Illinois River….. 4 Jan 11**		✓
★ **Survivability of Asian Carp in Barge Tanks in the Illinois River…….. 23 Mar 12**		✓
Conduct Survey of Local Barges ……	29 Aug 12	✓
★ Update **"Survivability of Asian Carp in Barge Tanks in the Illinois River"……. Nov 12**		
Project End ……..……	Jan 13	

★ Indicates RDC product.

Project #:	Tier:	RDC POC:	CG-926 Domain Lead:
410143	2	Ms. Penny Herring 860-271-2868	Mr. Jaurin Joseph 202- 475-3493

Expected Benefit:

Add to general R&D knowledge base

Notes:

Response to Oil In Ice

Mission Need: A group of methodologies to minimize the damage to the environment caused by spilled oil in extreme cold in the Arctic Region nor the Northern U.S.

Project Objectives:

- To develop equipment and techniques that can be used successfully to detect, track and recovery oil in ice filled waters in all conditions.
- Conduct a series of Demonstrations in the Great Lakes and the Arctic of increasing complexity to test operational deployments of equipment.
- Support National Academy of Science (NAS) Arctic Response Assessment.

Sponsor: CG-5RI

Stakeholder(s): D9, D17, EPA, BSEE

Key Milestone / Deliverable Schedule:

	Project Start	2 Nov 09 ✓
	Oil in Ice Demonstration 1	22 Apr 11 ✓
★	**Final Great Lakes Demonstration 1 Report**	**15 Jul 11** ✓
	Demonstration 2 - Great Lakes	27 Jan 12 ✓
★	**Final Great Lakes Demonstration 2 Report**	**11 May 12** ✓
	Great Lakes Demonstration 3	Jan 13
★	**Final Great Lakes Demonstration 3 Report**	**May 13**
	Arctic Demonstration 4	Aug 13
★	**Arctic: Demonstration White Paper**	**Dec 13**
★	**Final NAS Report**	**Oct 14**
	Project End	Oct14

★ Indicates RDC product.

Project #:	Tier:	RDC POC:	CG-926 Domain Lead:
4701	2	Mr. Kurt Hansen 860-271-2865	Mr. Shannon Jenkins 202-475-3490

Expected Benefit:

Improve operational performance/efficiency/mission execution/resiliency

Notes:

Includes funding from FY11 Oil Spill Research Earmark.

Maritime Trace Narcotic Identification/Verification

Mission Need: Narcotic ID/verification capabilities to meet NDCS performance goals.

Project Objectives:

- The project objective is to provide boarding team members a more effective and efficient narcotic identification/validation capability for use during maritime counterdrug missions.

Sponsor: CG-5RE
Stakeholder(s): CG-761

Key Milestone / Deliverable Schedule:

	Project Start …….……	6 Jun 11 ✓
★	**Maritime Trace Narcotics Detection Key Performance Parameters (KPP) and Devices…….**	**16 May 12 ✓**
	KDP (Go/No-Go Phase I to Phase II) ……	18 Jun 12 ✓
	Begin Field Deployment Testing ……..…..	Jan 13
★	**Maritime Narcotic ID/V Capability Report ……**	**Sep 13**
	Project End ……...…….	Sep 13

Project #:	Tier:	RDC POC:	CG-926 Domain Lead:
5802	3	Mr. Brian Dolph 860-271-2817	LCDR Anthony Erickson 202-475-3748

Expected Benefit:

Direct Product Line/Core Technology Support (Tech refresh, DMS, etc

Notes:

★ Indicates RDC product.

Mobile 10-print Biometric Field Test

Mission Need: Decision support information relating to field use of mobile 10-print multi-modal biometric systems.

Project Objectives:

- Evaluation using Two Print System Architecture.
- Full 10-Print System Configuration Development.
- Develop Facial and Iris Image.
- Implementation and Final Field Test.
- Analyze and report results.

Sponsor: CG-7612
Stakeholder(s): DHS S&T (HFD)

Key Milestone / Deliverable Schedule:

Project Start ……..	10 Sep 11	✓
Phase 1 System Design and Implementation……..	8 Aug 12	✓
Phase 1 Field Deployment (10-print, facial image)	28 Aug 12	✓
Phase 2 Iris Image Evaluation……...……	Nov 12	
★ **Mobile 10-Print Biometrics Field Test Brief…….**	**Jul 13**	
Project End ……	Jul 13	

Project #:	Tier:	RDC POC:	CG-926 Domain Lead:
5682	3	Dr. Thomas Amerson 860-271-2894	Mr. Shannon Jenkins 202-475-3490

Expected Benefit:

Direct Product Line/Core Technology Support (Tech refresh, DMS, etc

Notes:

★ Indicates RDC product.

Acquisition Directorate

Research & Development Center

RDC FY13 Project Portfolio

Additional R&D Opportunities

(Not listed in priority order)

Lighting Assessment for the Cutter Bridge

Mission Need: The ability to effectively maintain dark adaptation on the bridge of Coast Guard cutters.

Project Objectives:

- Measure and understand the lighting problems on the Bridge.
- Determine whether existing solutions (e.g., Navy) could be implemented on CG cutters.

Sponsor: CG-1B3
Stakeholder(s): CG-751

Key Milestone / Deliverable Schedule:

Project Start	Oct 12
Cutter Visits	Mar 13
★ **Lighting Recommendations for the Cutter Bridge**	**Jul 13**
Project End	Aug 13

Project #:	Tier:	RDC POC:	CG-926 Domain Lead:
2012.038	3	Dr. Anita Rothblum 860-271-2847	Mr. Jaurin Joseph 202- 475-3493

Expected Benefit:

Add to general R&D knowledge base

Notes:

★ Indicates RDC product.

Method to Evaluate Command Center (CC) Capabilities

Mission Need: A methodology to assess how well CCs meet capability requirements.

Project Objectives:

- Develop a systems approach for assessing CC capabilities and capacities.
- Develop a tool to automate the evaluation strategy.

Sponsor: CG-7412

Stakeholder(s):

Key Milestone / Deliverable Schedule:

	Project Start	Nov 12
	Develop and Pilot Test Evaluation Strategy	Jun 13
★	**Annotated Briefing on Evaluation Strategy**	**Sep 13**
	Extend Evaluation Strategy to Other Missions	Jun 14
	Develop and Pilot Test Automated Eval Tool	Sep 14
	Complete and Test CC Evaluation Tool	Jul 15
★	**Deliver CC Evaluation Tool and Briefing**	**Jul 15**
	Project End	Aug 15

Project #:	Tier:	RDC POC:	CG-926 Domain Lead:
2013.006	3	Dr. Anita Rothblum 860-271-2847	CDR Tung Ly 202-475-3011

Expected Benefit:

Improved Doctrine/CONOPs/TTPs

Notes:

★ Indicates RDC product.

Develop In Situ Devices to Enable Protection of Sunken Military Vessels

Mission Need: A capability to thwart and/or catch looters at historical sites and war graves.

Project Objectives:

- Research an apparatus that can be deployed at wreck sites, especially passive acoustic monitoring system.
- Develop the best fitting apparatus.
- Test the best fitting apparatus.
- Develop the CONOP for the best fitting system.

Sponsor: CG-5RE

Stakeholder(s):

Key Milestone / Deliverable Schedule:

	Project Start ……..	Dec 12
	Determine Feasibility of Apparatus……	May 13
★	**Develop Apparatus ……..…….. **	**Nov 13**
	Project End ……..……..	Dec 13

Project #:	Tier:	RDC POC:	CG-926 Domain Lead:
2013.032	3	LT Helen Millward 860-271-2815	CDR Tung Ly 202-475-3011

Expected Benefit:

Improve operational performance/efficiency/mission execution/resiliency

Notes:

★ Indicates RDC product.

Airborne Oil Spill Remote Sensing and Reporting

Mission Need: Tactics, Techniques, and Procedures (TTP) for optimizing the use of existing airborne sensors for detecting and tracking oil spills.

Project Objectives:

- Baseline current CG airborne capabilities for Detecting, Mapping and Reporting (DMR) oil spills.
- Analyze results of DHR oil spill efforts.
- Document issues in CG oil spill DMR within context of hardware / operator performance and environmental conditions and work with ATC Mobile to develop TTPs.
- Conduct airborne oil spill DMR testing.

Sponsor: CG-761

Stakeholder(s): CG-926, FORCECOM, BSEE

Key Milestone / Deliverable Schedule:

Project Start …….….	Jan 13
Baseline Development …….	Jul 13
Analyze DHR Efforts…….	Sep 13
Conduct Field Evaluations ……..	Dec 13
★ **Airborne Oil Spill Remote Sensing and Reporting Final Report ……..... **	**Apr 14**
Project End ……	May 14

Project #:	Tier:	RDC POC:	CG-926 Domain Lead:
2012.001	3	LT Steve Dunn 860-271-2789	CDR Albert Antaran 202- 475-3049

Expected Benefit:

Improved Doctrine/CONOPs/TTPs

Notes:

★ Indicates RDC product.

Evaluate Technologies to Optimize CG Tactical Data Transmission

Mission Need: An enterprise level technology capable of transferring "real-time" SAR pattern or Tactical tasking data to its fleet of operational vessels and aircraft.

Project Objectives:

- Assess current CG communications (Sea, Air, and Land assets) infrastructure to determine feasibility of solving current Gap.
- Identify interoperability & other CG enterprise constraints.
- Leverage OGA to identify potentially suitable technologies.
- Submit RFI & investigate suitable public/industry technologies.
- Identify/catalogue impacted or required software & hardware across spectrum of CG communications enterprise.
- Determine top-3 potential solutions & perform cost/benefit analyses.
- Report findings to sponsor.

Sponsor: CG-761

Stakeholder(s): CG-6

Key Milestone / Deliverable Schedule:

Project Start ..... Oct 12

OGA Systems Review..... Nov 12

Public/Industry RFI Submission & Review..... Jan 12

★ **Final Report: Recommendations for CG Tactical Data Transmission..... Apr 13**

Project End ..... May 13

Project #:	Tier:	RDC POC:	CG-926 Domain Lead:
2013.004	3	LCDR Tom Hickey 8760-271-2897	CDR Tung Ly 202-475-3011

Expected Benefit:

Direct Product Line/Core Technology Support (Tech refresh, DMS, etc

Notes:

★ Indicates RDC product.

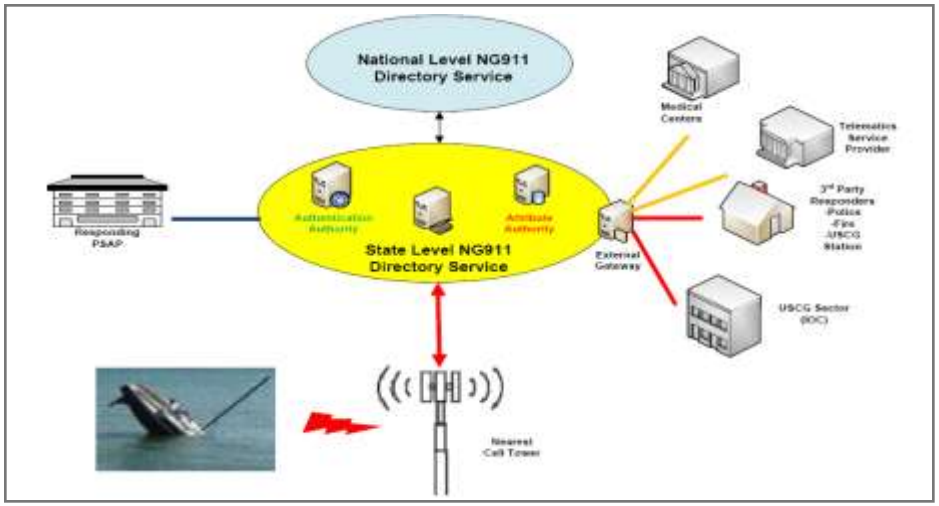
Next Generation (NG) 911 to USCG Responder Demonstration

Mission Need: Capability to receive Internet Protocol (IP) Based 911 Emergency data from Public Safety Answering Points (PSAPs).

Project Objectives:

- Research and identify feasible alternatives to fill the NG911 to USCG Responder gap.
- Select and demonstrate a technology solution compatible with NG911 and USCG Sector operations.
- Investigate NG911 and R21 software compatibility and connectivity requirements.

Sponsor: CG-761
Stakeholder(s): CG-652



Key Milestone / Deliverable Schedule:

Project Start ……	*Jul 13
Determine Requirements for USCG to Accept NG911 Calls as a 3rd Party Responder……	Sep 13
Procure HW/SW…….……..	Jul 14
Establish NG911 Connectivity…….	Sep 14
Establish IOC……...	Oct 14
Complete Demonstration……	Apr 15
★ **RDC Final Report……..…….....**	**Jul 15**
Project End ……	Aug 15

★ Indicates RDC product.

Project #:	Tier:	RDC POC:	CG-926 Domain Lead:
2013.010	3	Mr. Dave Larson 860-271-2845	CDR Tung Ly 202-475-3011

Expected Benefit:

Direct Product Line/Core Technology Support (Tech refresh, DMS, etc

Notes:

*Project start date is to coincide with NG-911's readiness to accept 3rd party responders at the New London PSAP.

Prototype Hoax Location System Development

Mission Need: Capability to precisely geo-locate VHF marine channel hoax transmissions.

Project Objectives:

- Establish functional requirements for hoax location system.
- Conduct market research, identify, assess, and obtain state of the market COTS/GOTS geo-locating system(s).
- Develop a prototype geo-locating system.
- Test & evaluate geo-locating systems effectiveness.
- Recommend feasible and cost-effective solutions with potential to precisely geo-locate hoaxers.

Sponsor: CG-761

Stakeholder(s): CGD One (DT), Others TBD

Key Milestone / Deliverable Schedule:

Project Start	Oct 12
Conduct Market Research	Feb 13
Develop Demonstration Test Plan	Jun 13
Obtain COTS/GOTS Alternative for Demo	Jul 13
Develop Prototype Candidate	Aug 13
Conduct Demonstration	Sep 13
★ **Hoax Location Systems Demonstration Summary Report**	**Feb 14**
Project End	Mar 14

Project #:	Tier:	RDC POC:	CG-926 Domain Lead:
2013.012	3	Mr. Dave Larson 860-271-2845	CDR Tung Ly 202-475-3011

Expected Benefit:

Direct Product Line/Core Technology Support (Tech refresh, DMS, etc

Notes:

★ Indicates RDC product.

Identify Navigation, Communications, and Detection (NC&D) Equipment for Ice Rescue Teams

Mission Need: The robust electronic equipment needed for Ice SAR cases.

Project Objectives:

- Research necessary equipment needed to complete Ice Rescue Team (SPC and on foot) missions, with a focus on multi-purpose, weatherproof equipment for Ice Rescue Teams.
- Document requirements and performance gaps.
- Post an RFI for test products/candidates.
- Test products on ice (D-9 environment) to determine viability and to narrow, then finalize the list of potential products.

Sponsor: CG-5RI

Stakeholder(s): LANT-7, CGD-9

Key Milestone / Deliverable Schedule:

Project Start ……..…… Nov 12

Document Requirements and Identified Gaps…… Mar 13

Phase 1 Post RFI……..…….. May 13

Phase 1 Review, Evaluation, and Down-Selection…. Aug 13

★ **Interim Brief: Lessons Learned and Preliminary Product Selections for Follow-On Testing…… Sep 13**

Phase 2 Field Testing……..…… Feb 14

★ **Final Report: Lessons Learned and Final Product Recommendations for NC&D Equipment..... Aug 14**

Project End …….. Sep 14

★ Indicates RDC product.

Project #:	Tier:	RDC POC:	CG-926 Domain Lead:
2013.013	3	Mr. Don Decker 860-271-2701	LCDR Anthony Erickson 202-475-3748

Expected Benefit:

Improve operational performance/efficiency/mission execution/resiliency

Notes:

Evaluate Rotary Wing Surface Search Radar (SSR)

Mission Need: To employ advances in commercially available SSR in Coast Guard Rotary Wing aircraft to their maximum benefit.

Project Objectives:

- Evaluate commercially available SSR system for MH-60T or MH-65.
- Determine the best system for the CG.
- Model the system operating in a variety of environmental conditions and mission scenarios.

Sponsor: CG-711
Stakeholder(s): CG-931

Key Milestone / Deliverable Schedule:

Project Start ……..	Dec 12
Determine Best System ……..	May 13
Model System ……	Oct 13
★ **RDC System Demonstration ……..... **	**Nov 13**
Project End ……	Dec 13

Project #:	Tier:	RDC POC:	CG-926 Domain Lead:
2013.017	3	Mr. Dave Larson 860-271-2845	CDR Albert Antaran 202- 475-3049

Expected Benefit:

Improve operational performance/efficiency/mission execution/resiliency

Notes:

Scope not yet confirmed with CG-931 requestor (inquiries made).

★ Indicates RDC product.

Assess Electro-Optics/Infrared Sensors Utilizing Laser Gated Intensified (LGI) Technology

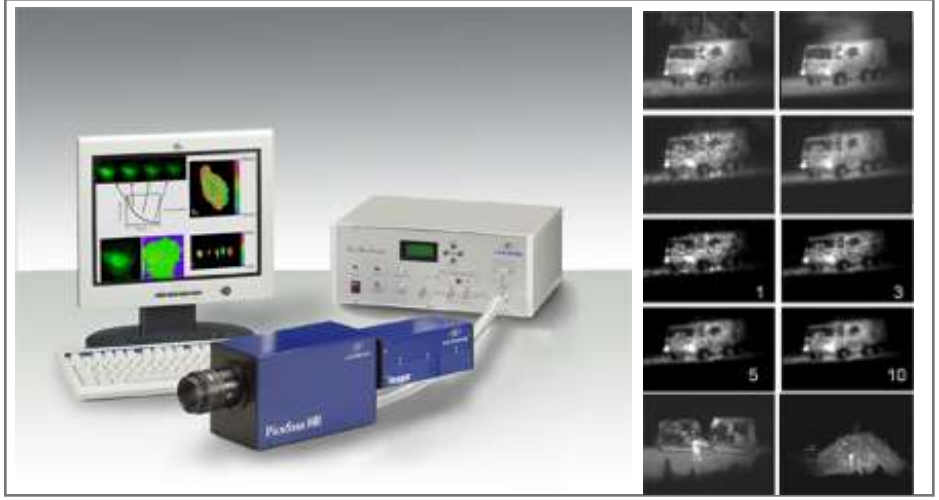
Mission Need: Thermal infrared and visible spectrum image intensification (I^2) systems which can penetrate through obscurants.

Project Objectives:

- Analyze the known advantages/disadvantages of thermal infrared and I^2 cameras vs. LGI cameras through review of RDC Project 7723 and more recent literature. In addition, address eye safety of the LGI unit.
- Evaluate potential feasibility (technical, operational, time and costs) of augmenting or replacing current CG sensor systems with LGI systems.
- Recommend LGI sensor technologies for CG demonstration and evaluation of LGI optical resolution, depth of range, and target identification capability through multiple atmospheric conditions.

Sponsor: CG-761

Stakeholder(s):



Key Milestone / Deliverable Schedule:

	Project Start	Dec 12
	Review & Analyze LGI Sensor Technology	Mar 13
★	**Feasibility Assessment of LGI Technology for CG Applications**	**Jul 13**
	IPT Concurrence to Proceed with LGI Evaluation Recommendations	Aug 13
★	**Recommendations for Demonstration and Evaluation of LGI Technologies**	**Oct 13**
	Project End	Dec 13

Project #:	Tier:	RDC POC:	CG-926 Domain Lead:
2013.025	3	Dr. Andrew Niccolai 860-271-2670	CDR Tung Ly 202-475-3011

Expected Benefit:

Add to general R&D knowledge base

Notes:

★ Indicates RDC product.

Selection & Testing of Solid State RADAR for VTS

Mission Need: A replacement for end of life VTS magnetron RADARs.

Project Objectives:

- Obtain quantitative data to enable the Coast Guard to decide whether to replace fielded, end of life magnetron-based RADARs with solid state RADARs or other magnetron-based RADARs.
- Provide a cost-benefit analysis on the purchase and long-term support cost of solid state RADARs relative to magnetron-based RADARs.

Sponsor: CG-64

Stakeholder(s): CG-741, C3CEN

Key Milestone / Deliverable Schedule:

Project Start	Oct 12
Identify Key Elements	Oct 12
Identify KPPs	Nov 12
Test Plan Developed	Mar 13
Test Range and Targets Reserved	Mar 13
CRADA or Other Agreement Approved	Jul 13
Testing Complete	Dec 13
★ **Cost-Benefit Analysis**	**Apr 14**
Project End	Jun 14

Project #:	Tier:	RDC POC:	CG-926 Domain Lead:
2013.007	3	LT Jeff Young 860-271-2679	CDR Tung Ly 202-475-3011

Expected Benefit:

Direct Product Line/Core Technology Support (Tech refresh, DMS, etc

Notes:

★ Indicates RDC product.

Oil Spill Response Technology Gaps

Mission Need: A systematic review of recent events to establish the Government's next steps toward improving the effectiveness of the integrated government and Responsible Party response.

Project Objectives:

- Summarize capability gaps based on reviews of spills before DWH and other major U.S. spills since 2007, including DWH.
- Identify technology gap areas for CG and industry response.
- Identify capability gaps to be addressed by ongoing R&D.
- Prioritize the remaining capability gaps for funding and develop briefs to publicize the CG priorities to the spill response and oversight communities.

Sponsor: CG-5RI
Stakeholder(s): BSEE

Key Milestone / Deliverable Schedule:

Project Start ……..……Oct 12

Identify Current Capability Gaps…..…….. Aug 13

External Agency Reviews…… Oct 13

Prioritize Capability Gaps and R&D Investment…….. Jan 14

★ **Priorities for Coast Guard Oil Spill Response Technology Investment……..……. Feb 14**

Project End ……..…….. Apr 14

Project #:	Tier:	RDC POC:	CG-926 Domain Lead:
2011.024	3	Mr. Chris Turner 860-271-2623	Mr. Shannon Jenkins 202-475-3490

Expected Benefit:

Add to general R&D knowledge base

Notes:

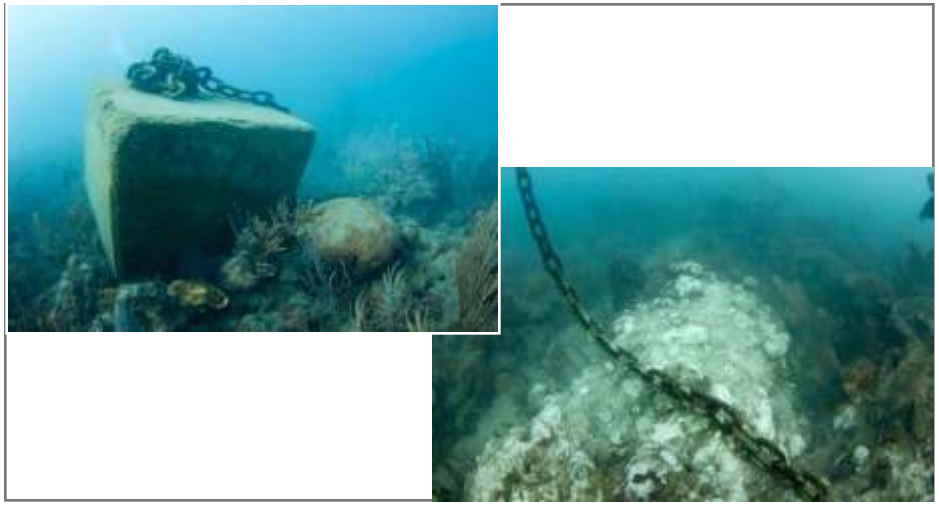
★ Indicates RDC product.

Develop an Environmentally Friendly Buoy Mooring System

Mission Need: A buoy mooring system situated in environmentally sensitive areas that would avoid directly damaging nearby delicate plants and animals in the benthic zone.

Project Objectives:

- Conduct a market research to determine alternatives to traditional buoy mooring systems.
- Use BAA to develop and test prototypes and acquire final report to determine best available technology for environmentally sensitive areas.



Sponsor: CG-5PW

Stakeholder(s):

Key Milestone / Deliverable Schedule:

	Project Start ……	Nov 12
	Conduct Market Research……	Mar 13
	Brief Market Research Results to Sponsor…….....	May 13
★	**Prototype Design Report…….. **	**Mar 14**
	Award Contracts for Prototype Development and Testing……..	Jun 14
	Prototype Testing……...	Jan 15
★	**Prototype Final Report…… **	**Apr 16**
	Project End ……..	May 16

Project #:	Tier:	RDC POC:	CG-926 Domain Lead:
2013.014	3	Mr. Alexander Balsley 860-271-2854	Mr. Jaurin Joseph 202- 475-3493

Expected Benefit:

Improve operational performance/efficiency/mission execution/resiliency

Notes:

★ Indicates RDC product.

Detect DGPS/GPS Position/Time Anomalies through NAIS

Mission Need: An active automated GPS signal monitoring capability to identify local unavailability of GPS signals using information from the NAIS.

Project Objectives:

- Investigate and develop methods to identify GPS outages and signal interference based upon information available from the NAIS . The methods should be able to identify both local and broad geographic area GPS issues.
- Demonstrate the methods with an alpha level prototype, identify system architecture, interface standards, and middleware (if necessary) to enable detailed outage information with notification to NAVCEN.

Sponsor: CG-761

Stakeholder(s): CG-257, CG-NAV, NAVCEN, CAIT-SC

Key Milestone / Deliverable Schedule:

	Project Start ….……	Dec 12
★	**Report Investigation Findings on Method(s)……**	**Jun 13**
★	**Prototype Automated Notification Tool……..…..**	**Aug 14**
	Project End ……..……	Sep 14

Project #:	Tier:	RDC POC:	CG-926 Domain Lead:
2013.021	3	Mr. Scott Fields 860-271-2805	CDR Tung Ly 202-475-3011

Expected Benefit:

Direct Product Line/Core Technology Support (Tech refresh, DMS, etc

Notes:

★ Indicates RDC product.

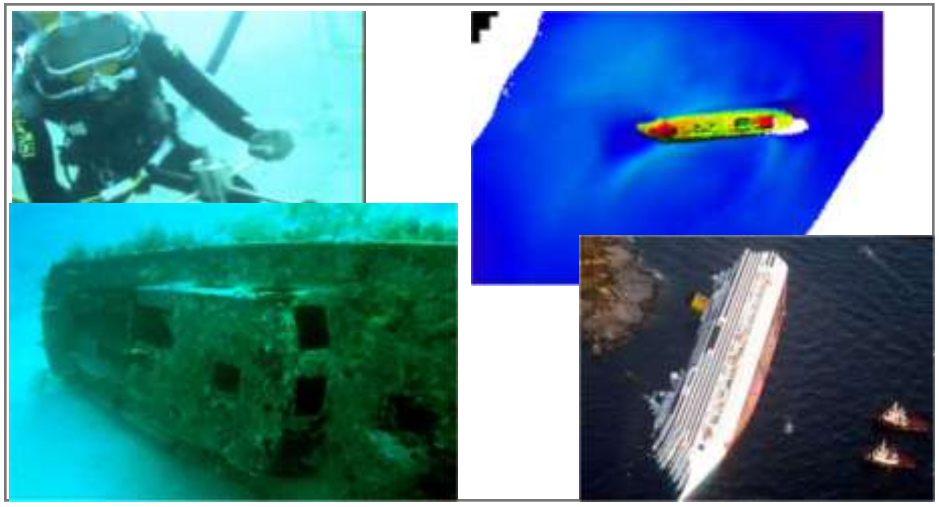
Existing Wrecks Potential Spill Response Assessment

Mission Need: Decision tools and recovery/mitigation tools for responding to oil in submerged wrecks.

Project Objectives:

- Develop decision making tools for Federal On-scene Commander (FOSC) to aid in response planning for oil is submerged vessels.
- Develop suite of hardware that can be used for assessment and mitigation, building on industry's past efforts.

Sponsor: CG-5RI
Stakeholder(s): BSEE



Key Milestone / Deliverable Schedule:

	Project Start ….……	Jan 13
★	**Tools Assessment…….. **	**Aug 13**
	FOSC Tools Development……..…	Aug 14
	Project End ……..……	Aug 15

Project #:	Tier:	RDC POC:	CG-926 Domain Lead:
2013.022	3	Mr. Kurt Hansen	Mr. Shannon Jenkins

Expected Benefit:

Improved Doctrine/CONOPs/TTPs

Notes:

★ Indicates RDC product.

NAIS "Bear-Proof" Box for Alaska

Mission Need: A unique design for NAIS for the more remote areas of Alaska.

Project Objectives:

- Conduct market research in potential off the shelf solutions and university research efforts of related work such as University of Hawaii Center for Island, Maritime, and Extreme Environment Security (CIMES).
- Develop a design for the box, complete with an RF link budget, a power budget, circuit designs, wiring diagrams, and equipment list.
- Assemble the components into a working prototype and propose an Arctic test location.

Sponsor: CG-761

Stakeholder(s): CAIT-SC, DHS S&T (OUP)

Key Milestone / Deliverable Schedule:

	Project Start …..……	Dec 12
★	**"Bear-Proof" Box Design Report ...…….**	**Sep 13**
★	**Prototype Summary Report……...…...**	**Aug 14**
	Project End ……..……..	Sep 14

Project #:	Tier:	RDC POC:	CG-926 Domain Lead:
2013.029	3	Mr. Scott Fields 860-271-2805	Ms. Mary Kate Watts 202-475-3724

Expected Benefit:

Improve operational performance/efficiency/mission execution/resiliency

Notes:

★ Indicates RDC product.

CGMOES Next Generation

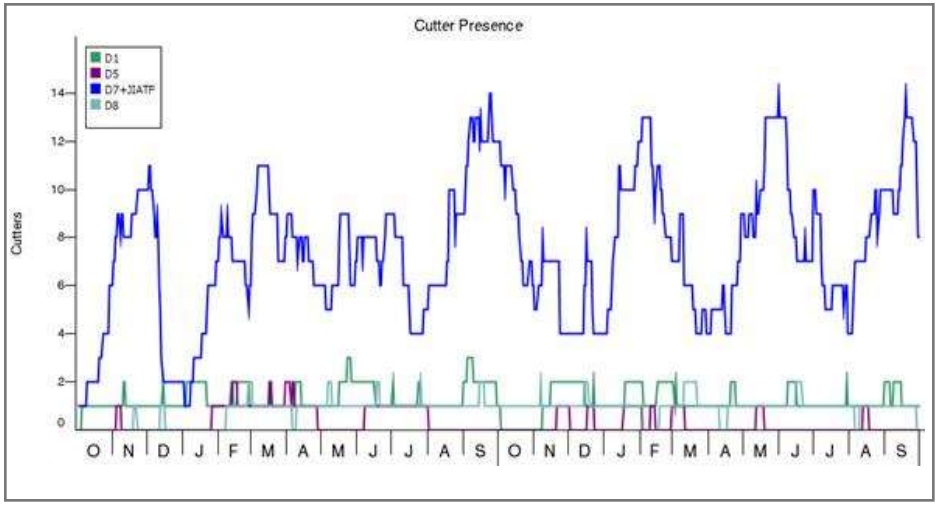
Mission Need: An easy-to-use, streamlined capability for routine Coast Guard-wide asset allocation and force structure decision support.

Project Objectives:

- Develop an organic capability to support quick turnaround answers to senior leadership force structure questions driven by Congress regarding: eliminations of asset classes, changes in mission priorities, etc.
- Reduce the time and costs involved with current modeling approaches.
- Improve the defensibility of model-based decision support system (DSS).

Sponsor: CG-771

Stakeholder(s): LANTAREA, CG-926, M&S Council



Key Milestone / Deliverable Schedule:

	Project Start	Jan 13
	Phase I Feasibility Study	Feb 14
★	**Business Case for Next Generation CGMOES**	**Feb 14**
	Phase II Develop Proof of Concept	Dec 14
★	**Proof of Concept Demonstration and Results**	**Dec 14**
	Phase III Implementation of Next Generation CGMOES at RDC	Dec 14
	Transition to Production System	Oct 15
★	**Verification and Validation Rpt for Accreditation**	**Dec 15**
	Project End	Jan 16

★ Indicates RDC product.

Project #:	Tier:	RDC POC:	CG-926 Domain Lead:
2012.033	3	Ms. Kathleen Shea Kettel 860-271-2770	LT Derek Storolis 202-475-3492

Expected Benefit:

Influence Mission Support efficiencies

Notes:

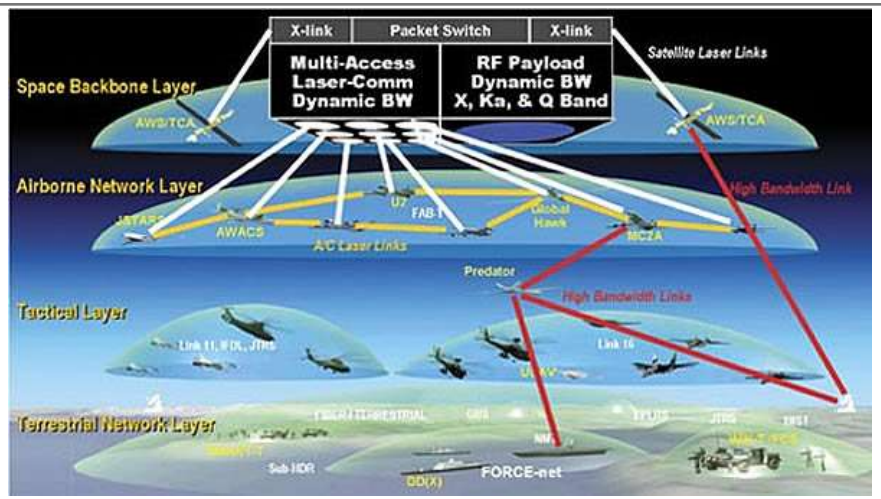
Communication Networks Modeling and Simulation Tool

Mission Need: A Comms Network M&S tool that can support Acquisition Decisions.

Project Objectives:

- Identify critical demand infrastructure and requirements.
- Complete Market Research to identify candidate modeling tools and net-worthiness.
- Select and acquire most cost-effective modeling tool.
- Develop model architecture, interfaces, and libraries.

Sponsor: CG-64
Stakeholder(s): CAIT-SC



Key Milestone / Deliverable Schedule:

	Project Start ……..	Oct 12
	Requirements/Infrastructure Identification …….	Jan 13
★	**Market Research/Net Readiness Report……**	**Mar 13**
	Tool Downselect and Acquisition…….....	Apr 13
★	**Model Development Complete……**	**Oct 13**
	VV&A Complete…….	Nov 13
	Project End …….	Nov 13

Project #:	Tier:	RDC POC:	CG-926 Domain Lead:
2013.009	3	CDR Sean Lester 860-271-2880	LT Derek Storolis 202-475-3492

Expected Benefit:

Direct Acquisition Support (MAR, MNS, CONOPS, ORD, AA, LCCE, T&E, etc)

Notes:

★ Indicates RDC product.

Cocaine Purity and Signature Test

Mission Need: More detailed field analyses to boost investigative efforts and increase awareness of maritime smuggling techniques and routes.

Project Objectives:

- The objective of this project is to create/develop a tool, for use by Boarding Team Members during maritime interdictions, capable of testing cocaine purity, signature (i.e., source country and processing location), and cutting agents (PSC/A).

Sponsor: CG-5RE

Stakeholder(s):

Key Milestone / Deliverable Schedule:

	Project Start …….	Nov 12
	"Lab" Tests Converted to "Maritime/Field" Tests…...	Aug 13
	Begin Field Tests & User Suitability Assessment….....	Jan 14
	Complete Field Tests & User Suitability Assessment...	May 14
★	**Final Report with PSC/A Kit Recommendation.…**	**Aug 14**
	Project End ……..……...	Sep 14

Project #:	Tier:	RDC POC:	CG-926 Domain Lead:
2013.026	3	Mr. Brian Dolph 860-271-2817	LCDR Anthony Erickson 202-475-3748

Expected Benefit:

Improve operational performance/efficiency/mission execution/resiliency

Notes:

★ Indicates RDC product.

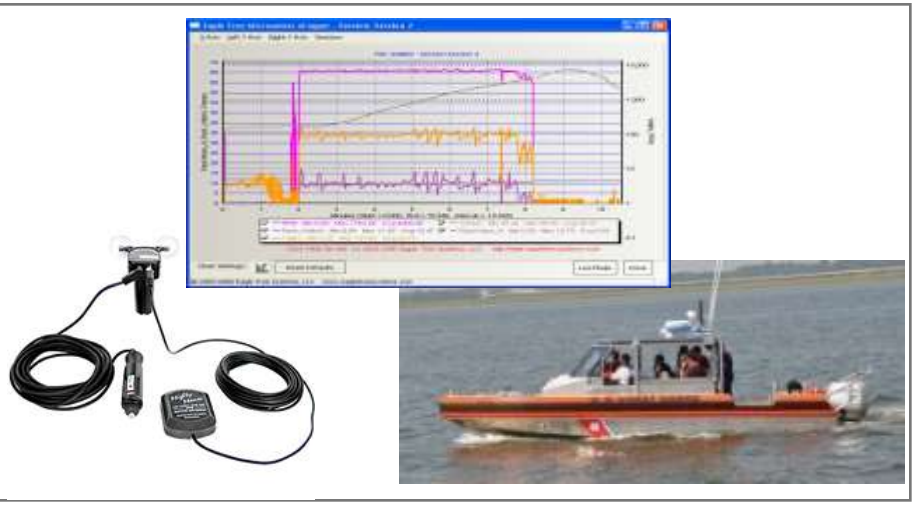
Operational Quality Assurance System (OQAS)

Mission Need: A quality assurance program for boat performance monitoring.

Project Objectives:

- Develop a dedicated, affordable, reliable, light weight data acquisition system to record and store boat speed and direction.
- Develop a Quality Assurance System to analyze data and provide easy access to station personnel and command leadership.

Sponsor: CG-731
Stakeholder(s): CG-1134



Key Milestone / Deliverable Schedule:

Project Start ……..…… Oct 12
Develop Prototype …….....Nov 12
Develop QA System……..…..... Jan 13
Install and Demonstrate..…….... Apr 13
★ **OQAS Project Report …….....Aug 13**
Project End ……..……Sep 13

Project #:	Tier:	RDC POC:	CG-926 Domain Lead:
2013.027	3	Mr. Jason Story 860-271-2833	LCDR Anthony Erickson 202-475-3748

Expected Benefit:

Influence Mission Support efficiencies

Notes:

★ Indicates RDC product.

Underwater Latent Fingerprinting

Mission Need: Ability to collect latent fingerprints from vessels or evidence that have been exposed or submersed in sea water.

Project Objectives:

- Determine if latent fingerprints be pulled off a submerged object (i.e., SPSS, fiberglass, aluminum, wooden hull, contraband) and the best process for doing so.
- Determine if latent fingerprints be pulled off a salt water exposed object (i.e., SPSS, fiberglass, aluminum, wooden hull, contraband) and the best process for doing so.
- Provide an analysis of the effects (e.g., exposure time) of salt water on latent finger prints.

Sponsor: CG-761
Stakeholder(s): CG-2A

Submerged Weapon Recovery

Key Milestone / Deliverable Schedule:

	Project Start	Oct 12
	Design Testing	Mar 13
	Conduct Testing	Jun 13
★	**Test Report**	**Aug 13**
	Project End	Sep 13

Project #:	Tier:	RDC POC:	CG-926 Domain Lead:
2013.030	3	Mr. Brian Dolph 860-271-2817	LCDR Anthony Erickson 202-475-3748

Expected Benefit:

Add to general R&D knowledge base

Notes:

★ Indicates RDC product.